

Appln. Ser. No. 10/039,482 2 0 0 0 3 3 3 4 4 5 2 0 0 4 2 5 0 2
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

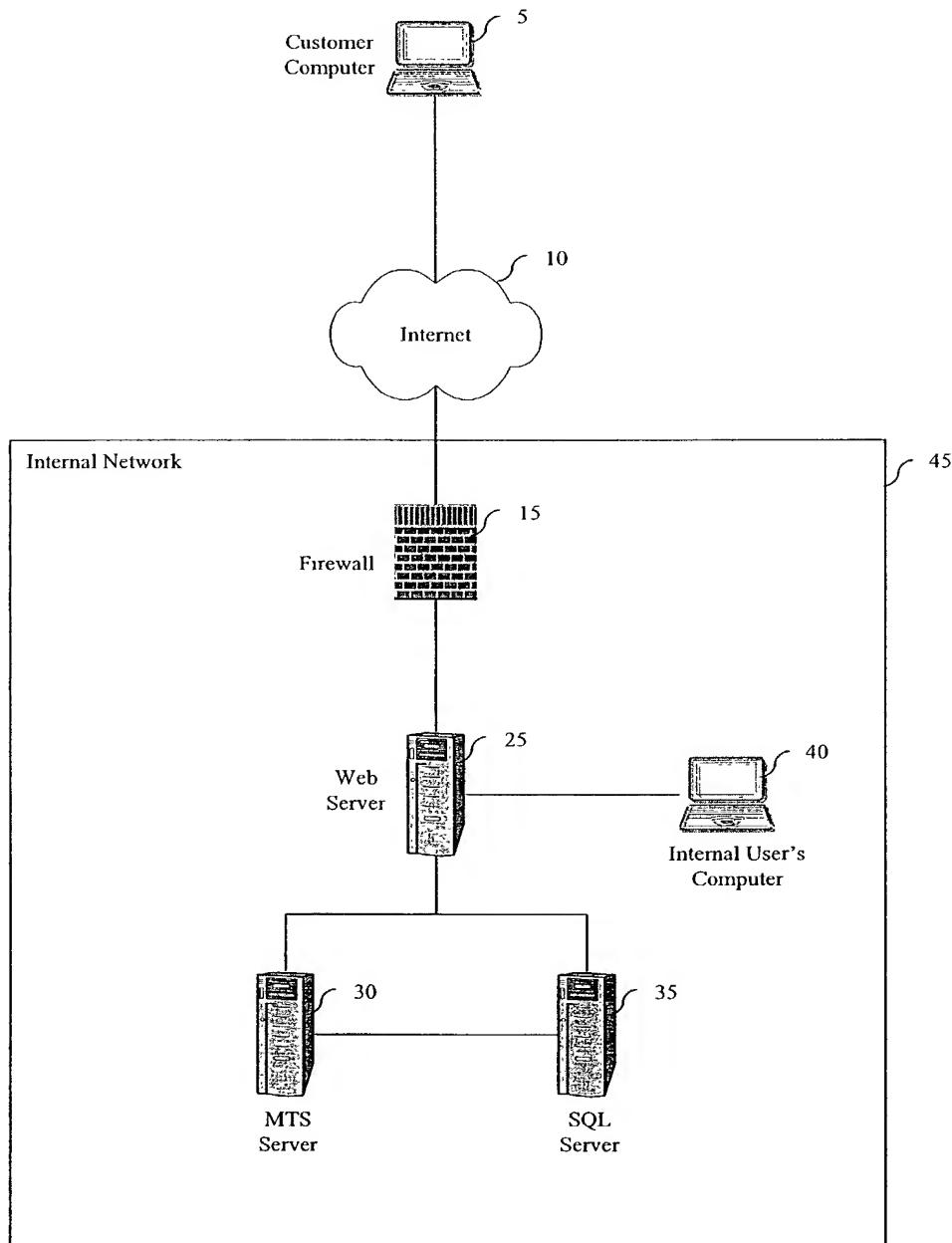


FIG. 1
(Prior Art)

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

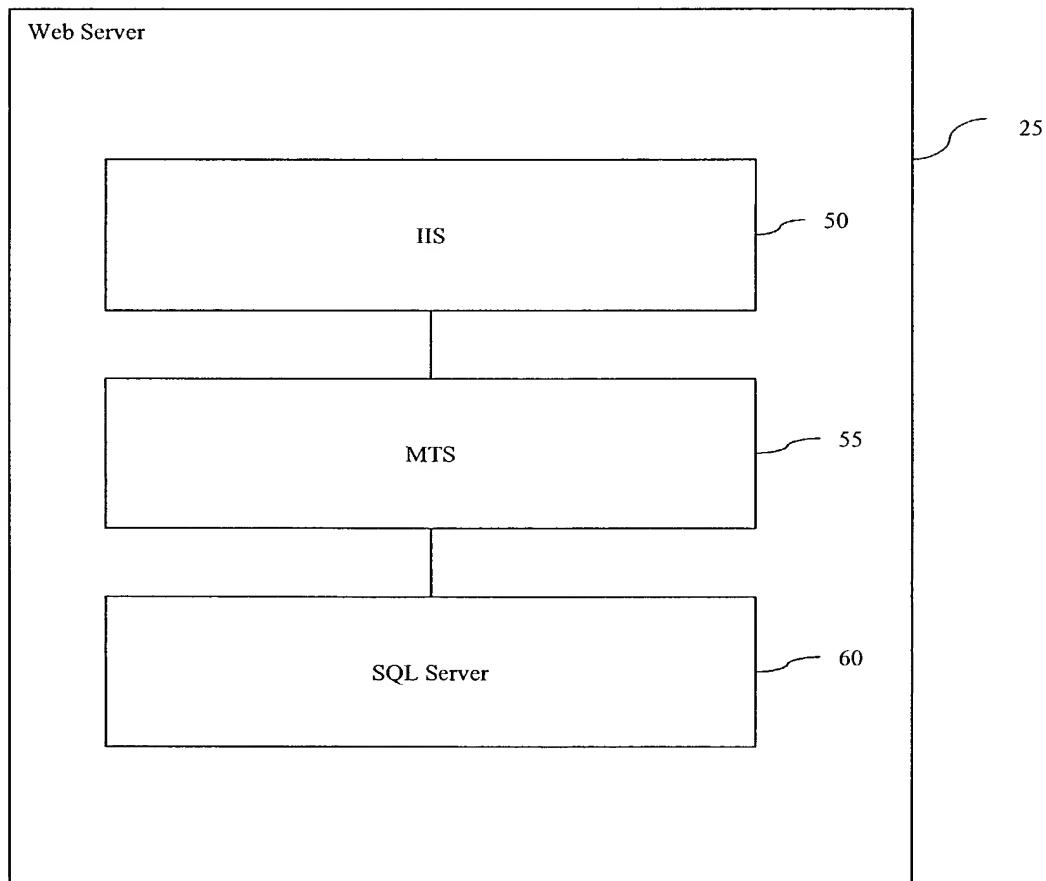


FIG.2
(Prior Art)

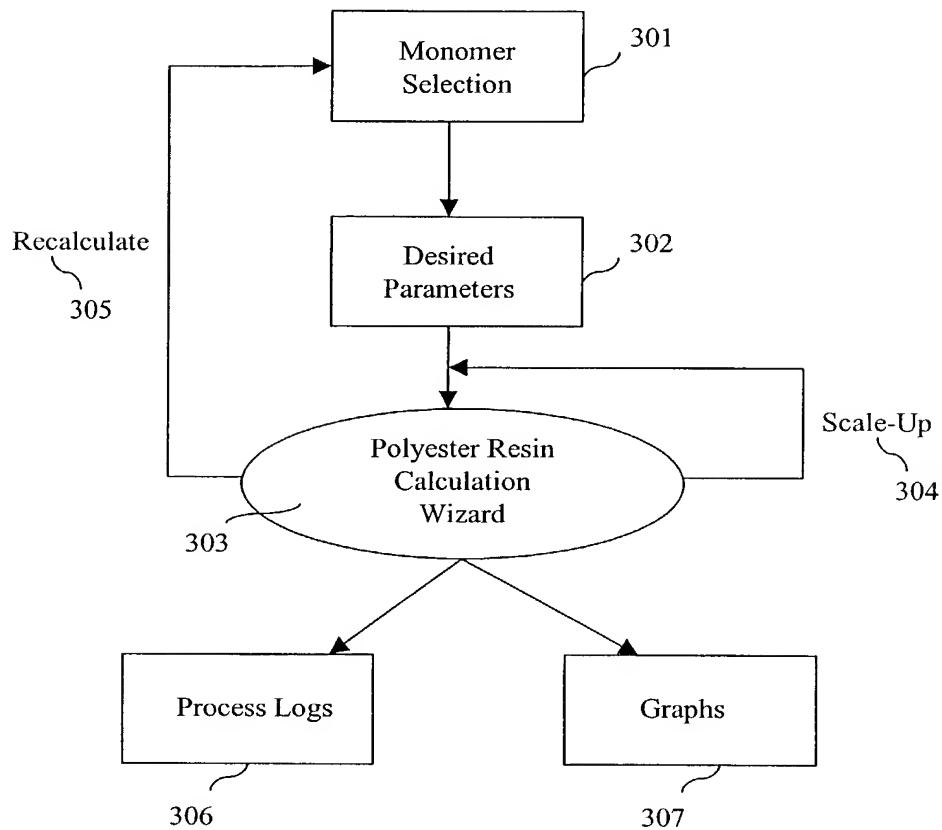


FIGURE 3A

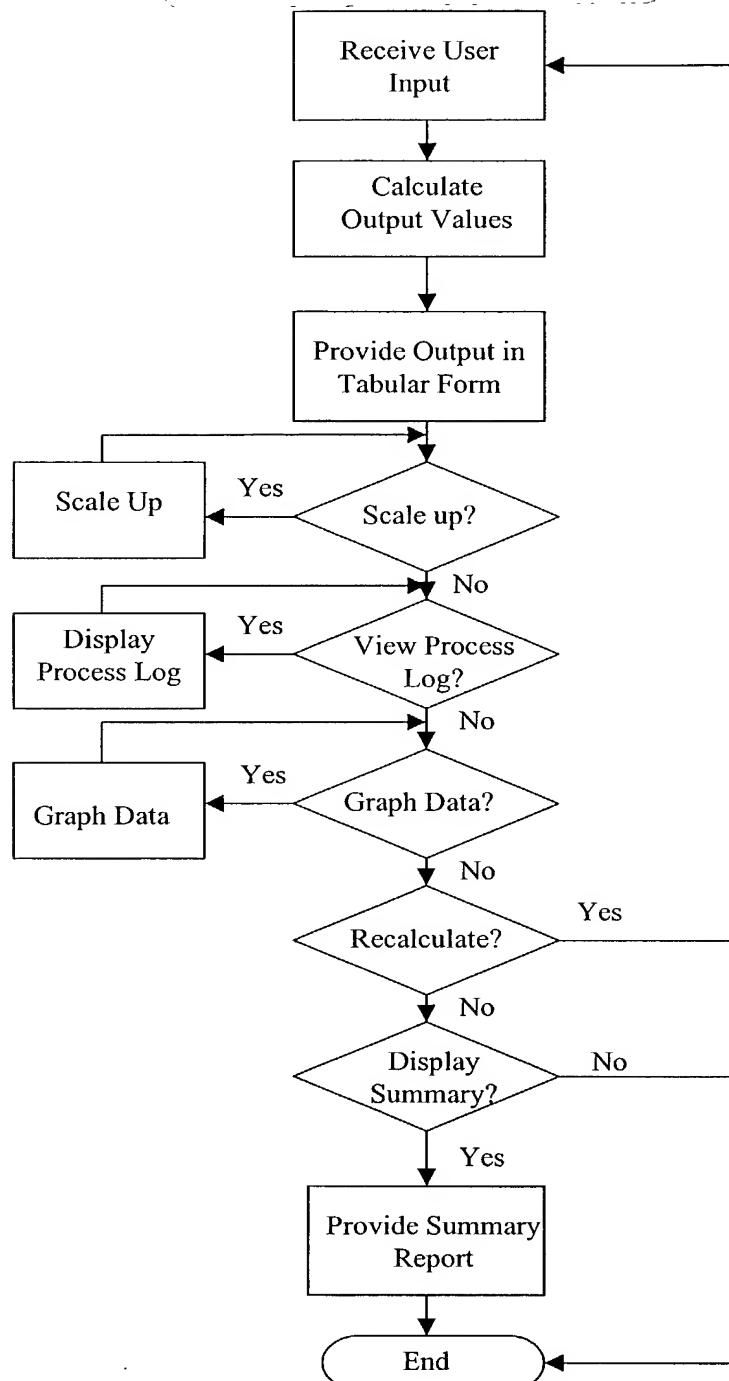


FIGURE 3B

2 Polyester Resin Calculation - Microsoft Internet Explorer provided by Kilpatrick Stockton LLP

File Edit View Favorites Tools Help

Address http://www.eastman.com/Wizards/ResinCalculationProgram/RCPMonomerSelect.asp

Polyester Resin Calculation 300

Contact Us 391 How To Use The Wizard 312 Close Window 393

Monomer Selection

*=Required Field

Designated Resin Name 310

Monomer Selection 314

HELP? 390

Click here to Add Unlisted Monomer 324

1,2-Epoxypropane 318

1,2-Propylene Glycol 318

1,3-Butanediol 318

1,3-Cyclohexanedicarboxylic Acid 318

1,4-Butanediol 318

Add Selected Monomers to the table below 316

Name 330 Molecular Weight 332 Acid Groups 334 Hydroxyl Groups 336 Condensate from the Acid 338 Condensate from the Hydroxyl 340 Weight Fraction Monomer in Resin 346 Weight Fraction Moiety in Monomer 348 Raw Material Cost 350

1,6-Hexanediol 320A

1,6-Hexanediol	118.16	0	2	0	9	0.847676	0	Delete
NAPHTHALENEDICARBOXYLIC ACID	216.11	2	0	9	0	0.916709	0	Delete

Clear all Monomer Selected 322

Click here to Continue 356

Disclaimer

Eastman Chemical Company will periodically check and update the data in this application. However, you should independently verify any information important for your uses. Neither Eastman Chemical Company nor any of its affiliates ("Eastman") shall be responsible for the use of any information, product, method, or apparatus herein presented ("Information"), and you must make your own determination as to its suitability and completeness for your own use, for the protection of the environment, and for health and safety purposes. You assume the entire risk of relying on this information. In no event shall Eastman be responsible for damages of any nature resulting from the use of or reliance upon this Information. By providing this information, Eastman neither can nor intends to control the method by which you use, handle, store, or transport Eastman products.

Disclaimer Privacy Policy Terms & Conditions

331 333 335

FIGURE 3C

Appln. Ser. No. 10/039,482 10039482 04-2502
SOFTWARE ENABLED WIZARDS Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

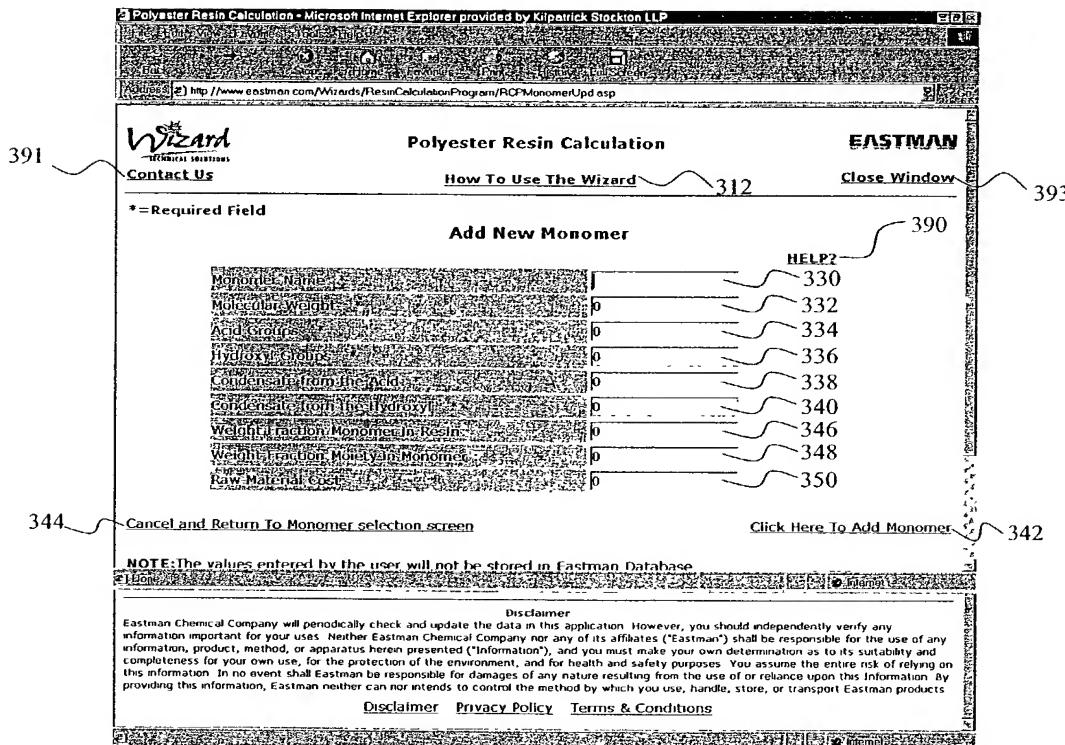


FIGURE 3D

391 → Polyester Resin Calculation - Microsoft Internet Explorer provided by Kilpatrick Stockton LLP
File Edit View Favorites Tools Help
Back Stop Forward Home Favorites Print History Full Screen Address http://www.eastman.com/Wizards/ResinCalculationProgram/RCPMonomerConstr.asp
Contact Us Wizard TECHNICAL SOLUTIONS Polyester Resin Calculation EASTMAN
How To Use The Wizard 312 Close Window 393
358 → Parameters for Hydroxyl Excess Resins
*** 0 Parameters Remain Unspecified *** HELP? 390
368 → Return To Selection Screen
Excess Hydroxyl Equivalents, % 100 → Hydroxyl Equivalents Weight 360 → Acid Number 10 → HELP? 390
Patton (K) Constant 370 → Number Average Molecular Weight, Mn 372 → HELP? 390
Use Acid:Hydroxyl Ratios 380 → Charge 378 → Batch Size 100 → HELP? 390
Weight Ratios & Weight % 382 → Charge Final Yield 376 → HELP? 390
364 → 366 → Monomer Molar Ratios → Weight Ratios → Weight % → HELP? 374
1,6 Hexanediol 32,6 → Naphthalenedicarboxylic Acid
Clear all Parameters 386 → Click here to Continue 384
Disclaimer
Eastman Chemical Company will periodically check and update the data in this application. However, you should independently verify any information important for your uses. Neither Eastman Chemical Company nor any of its affiliates ("Eastman") shall be responsible for the use of any information, product, method, or apparatus herein presented ("Information"), and you must make your own determination as to its suitability and completeness for your own use, for the protection of the environment, and for health and safety purposes. You assume the entire risk of relying on this information. In no event shall Eastman be responsible for damages of any nature resulting from the use of or reliance upon this Information. By providing this information, Eastman neither can nor intends to control the method by which you use, handle, store, or transport Eastman products.
Disclaimer Privacy Policy Terms & Conditions

FIGURE 3E

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
 Inventors: BASSETT et al.
 Express Mail No. EV 032 196 431 US

Polyester Resin Calculation - Microsoft Internet Explorer provided by Kilpatrick Stockton LLP

File Edit View Favorites Tools Help

Back Forward Stop Home Favorites Print History Full Screen

Address http://www.eastman.com/Wizards/ResinCalculationProgram/RCPolymerProp.asp

Wizard TECHNICAL SOLUTIONS

Polyester Resin Calculation

EASTMAN

391 Contact Us 312 How To Use The Wizard 393 Close Window

353 Download To Spreadsheet Format 351 E-mail this Page 399 Printer Friendly Report

355 How to download 392 Results

Monomer Selection Parameters 100 Unit Reactor Yield HELP?

Results Scale Up Process Log Graph Process Data 390

Monomer	Moles	Equivalents	Weight	Weight%	Monomer Units per Resin Chain
1,6-Hexanediol	0.3362	0.672	39.726	35.576	15.90
Naphthalenedicarboxylic Acid	0.3329	0.666	71.937	64.424	15.74

Total Charge 111.663
 Minus Condensate 11.663
 Yield 100.000

Acid Number	10	Hydroxyl Number	14
Fraction Acid Reacted	0.9732	Fraction Hydroxyl Reacted	0.9636
Acid Equivalent Weight	NA	Hydroxyl Equivalent Weight	4085.0
Acid Functionality	0.84	Hydroxyl Functionality	1.16
Excess Acid Equivalents	NA	Excess Hydroxyl Equivalents	1.00

Patton Constant(K) 1.0050 R(OH/COOH) 1:0.100
 Number Average Molecular Weight, M_n 4728 Gelation(M_n) Occurs @AcidNumber None
 Weight Average Molecular Weight, M_w NA Gelation(M_w) Occurs @AcidNumber NA

[Printer Friendly Report](#)

Disclaimer
 Eastman Chemical Company will periodically check and update the data in this application. However, you should independently verify any information important for your uses. Neither Eastman Chemical Company nor any of its affiliates ("Eastman") shall be responsible for the use of any information, product, method, or apparatus herein presented ("Information"), and you must make your own determination as to its suitability and completeness for your own use, for the protection of the environment, and for health and safety purposes. You assume the entire risk of relying on this information. In no event shall Eastman be responsible for damages of any nature resulting from the use of or reliance upon this Information. By providing this information, Eastman neither can nor intends to control the method by which you use, handle, store, or transport Eastman products.

[Disclaimer](#) [Privacy Policy](#) [Terms & Conditions](#)

FIGURE 3F

3 Polyester Resin Calculation - Microsoft Internet Explorer provided by Kilpatrick Stockton LLP

File Edit View Favorites Tools Help

Back Forward Stop Home Favorites Print History Full Screen

Address http://www.eastman.com/Wizards/ResinCalculationProgram/RCPolymerProp.asp

Wizard TECHNICAL SOLUTIONS **EASTMAN**

Polyester Resin Calculation

Contact Us **How To Use The Wizard** **Close Window**

Download To Spreadsheet Format **E-mail This Page** **Printer Friendly Report**

How to download

Results ~ 392

Monomer Selection Parameters	3000 Unit Reactor Charge						HELP	
Results Scale Up Process Log Graph Process Data	Monomer	Moles	Equivalents	Weight	Weight%	per Resin Chain	Monomer Units	
	1,6-Hexanediol	9.0326	18 065	1067 292	35.576	15.90		
	Naphthalenedicarboxylic Acid	8.9432	17 886	1932 708	64.424	15.74		
	Total Charge	3000.000						
	Minus Condensate	-313.350						
	Yield	2686 650						

(e) Done Internet

Acid Number	10	Hydroxyl Number	14
Fraction Acid Reacted	0.9732	Fraction Hydroxyl Reacted	0.9636
Acid Equivalent Weight	NA	Hydroxyl Equivalent Weight	4085.0
Acid Functionality	0.84	Hydroxyl Functionality	1.16
Excess Acid Equivalents	NA	Excess Hydroxyl Equivalents	1.00

Patton Constant (K_p) 1.0050 R(OH/COOH) 1.0100

Number Average Molecular Weight, M_n 4728 Gelation (M_n) Occurs @AcidNumber None

Weight Average Molecular Weight, M_w NA Gelation (M_w) Occurs @AcidNumber NA

Printer Friendly Report

Disclaimer

Eastman Chemical Company will periodically check and update the data in this application. However, you should independently verify any information important for your uses. Neither Eastman Chemical Company nor any of its affiliates ("Eastman") shall be responsible for the use of any information, product, method, or apparatus herein presented ("Information"), and you must make your own determination as to its suitability and completeness for your own use, for the protection of the environment, and for health and safety purposes. You assume the entire risk of relying on this information. In no event shall Eastman be responsible for damages of any nature resulting from the use of or reliance upon this Information. By providing this information, Eastman neither can nor intends to control the method by which you use, handle, store, or transport Eastman products.

Disclaimer Privacy Policy Terms & Conditions

(e) Done Internet

FIGURE 3G

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
 Inventors: BASSETT et al.
 Express Mail No. EV 032 196 431 US

353
355
396
385

392
393
381

383

398

3000 Unit Reactor Charge						HELP?
Monomer Selection Parameters	Monomer	Moles	Equivalents	Weight	Weight%	Monomer Units per Resin Chain
Results Scale Up	1,6-Hexanediol	9 0326	18.065	1067 292	35 576	15 90
Process Log	Naphthalenedicarboxylic Acid	18 943	17.886	3 1932 708	64 424	15 90
Graph Process Data						

Total Charge	3000 000
Monomer Condensate	913 510
Yield	2686 650

Acid Number	10	Hydroxyl Number	14
Fraction Acid Reacted	0 9732	Fraction Hydroxyl Reacted	0 9636
Acid Equivalent Weight	NA	Hydroxyl Equivalent Weight	4085 0
Acid Functionality	0.84	Hydroxyl Functionality	1 16
Excess Acid Equivalents	NA	Excess Hydroxyl Equivalents	1 00

Patterson Constant(K)	1.0050	KOH/COOH	1.0100
Number Average Molecular Weight, Mn	4728	Gelation(M _n)Occurs @AcidNumber	None
Weight Average Molecular Weight,Mw	NA	Gelation(M _w)Occurs @AcidNumber	NA

Process Log Information							
Number	Weight	Number	Weight	Number	Weight	Number	Weight
Acid	Hydroxyl	Acid	Hydroxyl	Acid	Hydroxyl	Molecular	Condensate
Number	Reacted	Reacted	Reacted	Reacted	Reacted	Weight	Weight
100 0	103.6	0.7243	0.7171	551	921	233.194	
95.0	98.6	0.7383	0.7312	580	978	237.711	
90 0	93.6	0.7527	0.7452	611	1041	242.334	

FIGURE 3H

Appl. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

Graph Process Data - Microsoft Internet Explorer provided by Kilpatrick Stockton LLP

File Edit View Favorites Tools Help

Back Forward Stop Home Favorites Print History Full Screen

Address http://www.eastman.com/Wizards/ResinCalculationProgram/RCPGraphInfo.asp?Excess=True

Go

Wizard
TECHNICAL SOLUTIONS

Polyester Resin Calculation

EASTMAN

[Contact Us](#) [How To Use The Wizard](#) [Close Window](#)

Graph Process Data

Select Parameters to Graph

Monomer Selection

Parameters

Results

Scale Up

Process Log

Graph Process Data

HELP?

Enter Acid Number Range

100	0	5
Upper	Lower	StepSize

One X coordinate and two Y coordinates may be selected.

387

Parameters	X-Axis	Y-Axis
Acid Number	<input checked="" type="checkbox"/>	
Hydroxyl Number	<input type="checkbox"/>	
Fraction Acid Reacted	<input type="checkbox"/>	
Fraction Hydroxyl Reacted	<input type="checkbox"/>	
Number Average MW		<input checked="" type="checkbox"/>
Weight Average MW		<input type="checkbox"/>
Condensate		<input type="checkbox"/>

Internet

Create Graph

389

Disclaimer

Eastman Chemical Company will periodically check and update the data in this application. However, you should independently verify any information important for your uses. Neither Eastman Chemical Company nor any of its affiliates ("Eastman") shall be responsible for the use of any information, product, method, or apparatus herein presented ("Information"), and you must make your own determination as to its suitability and completeness for your own use, for the protection of the environment, and for health and safety purposes. You assume the entire risk of relying on this Information. In no event shall Eastman be responsible for damages of any nature resulting from the use of or reliance upon this Information. By providing this information, Eastman neither can nor intends to control the method by which you use, handle, store, or transport Eastman products.

[Disclaimer](#) [Privacy Policy](#) [Terms & Conditions](#)

Done Internet

FIGURE 3I

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

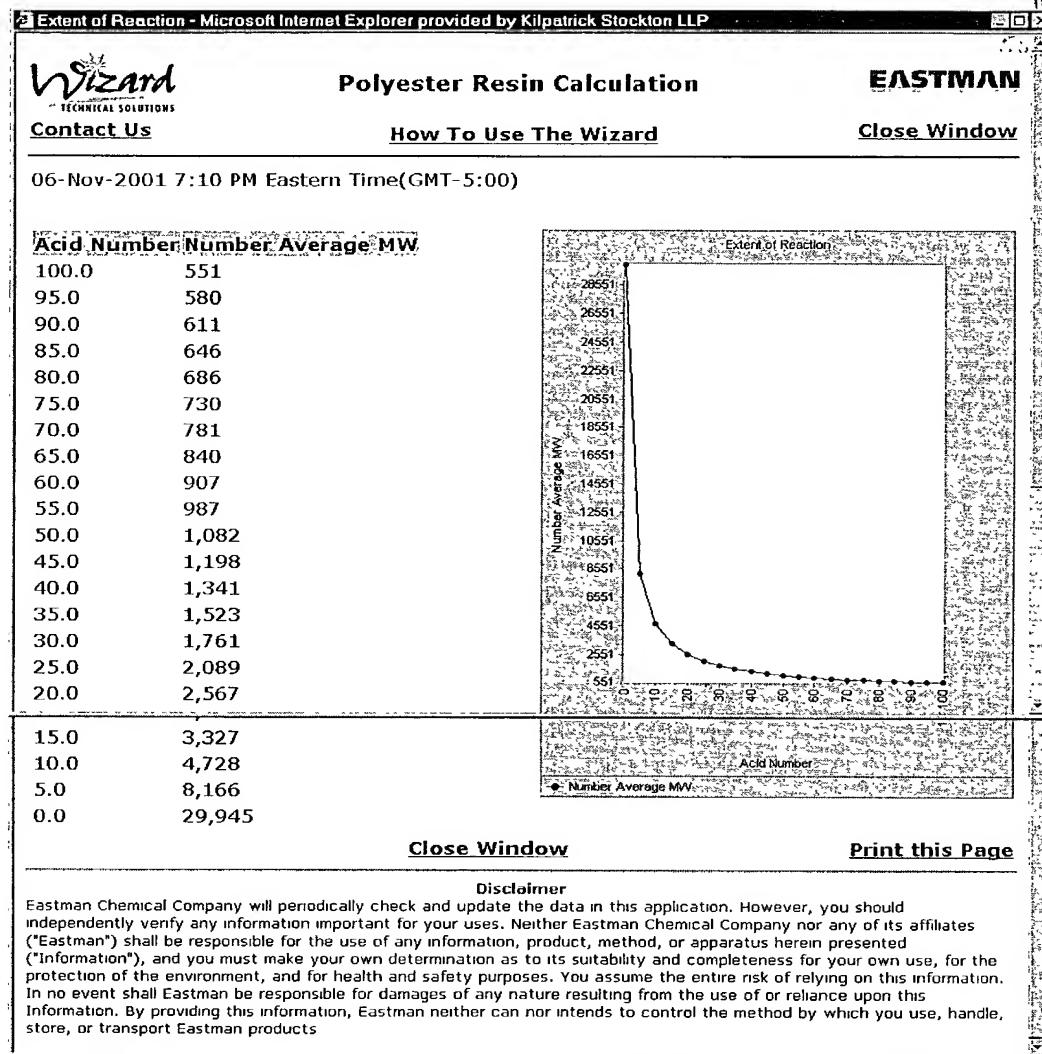


FIGURE 3J

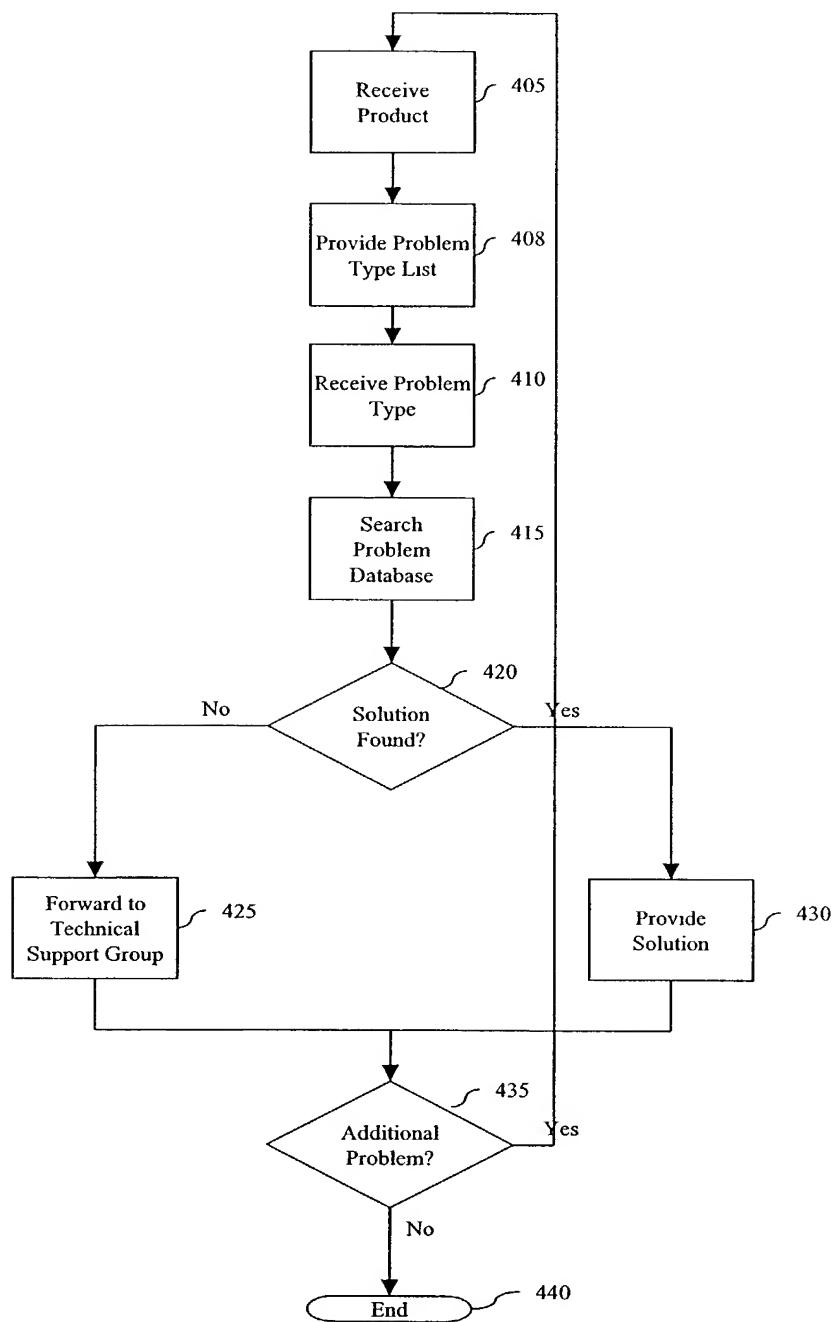


FIG. 4

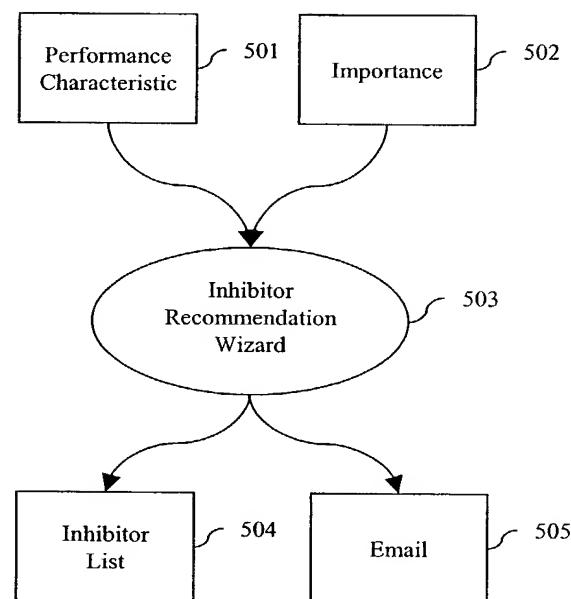


FIG. 5A

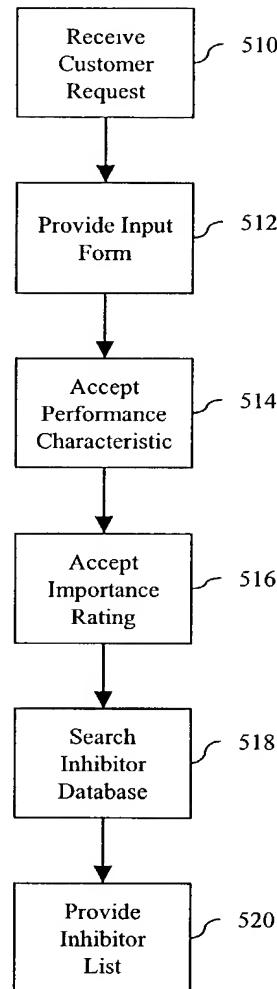


FIG. 5B

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
 Inventors: BASSETT et al.
 Express Mail No. EV 032 196 431 US

(1) 10/039,482
 10/039,482
 10/039,482

Performance Characteristics	Importance	Notes
Get Time Extension	C	C
Storage Stability	C	C
Low Color	C	C
Active without Oxygen	C	C
Styrene Solubility	C	C
Glycol Solubility	C	C
Alcohol Solubility	C	C
Ketone Solubility	C	C
Low Cost	C	C

Recommended Inhibitors	Percentage
Product-1	100%
Product-2	90%
Product-3	70%

[Help](#)

[View Recommended Inhibitors](#)

[Printer Friendly Version](#)

[Disclaimer](#)

[Print this page](#)

FIG. 5C

550

552

554

556

Performance Characteristics	Importance	Notes
Get Time Extension	None	
Storage Stability	None	
Low Color	None	
Active without Oxygen	None	
Styrene Solubility	None	
Glycol Solubility	None	
Alcohol Solubility	None	
Ketone Solubility	None	
Low Cost	None	

Recommended Inhibitors	Percentage
Product-1	100%
Product-2	90%
Product-3	70%

[21 Dec-2000 17:49 Eastern Time \(GMT -5:00\)](#)

[Contact Us](#)

[Close Window](#)

[Print this page](#)

[Disclaimer](#)

[Print this page](#)

[Disclaimer](#)

FIG. 5D

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

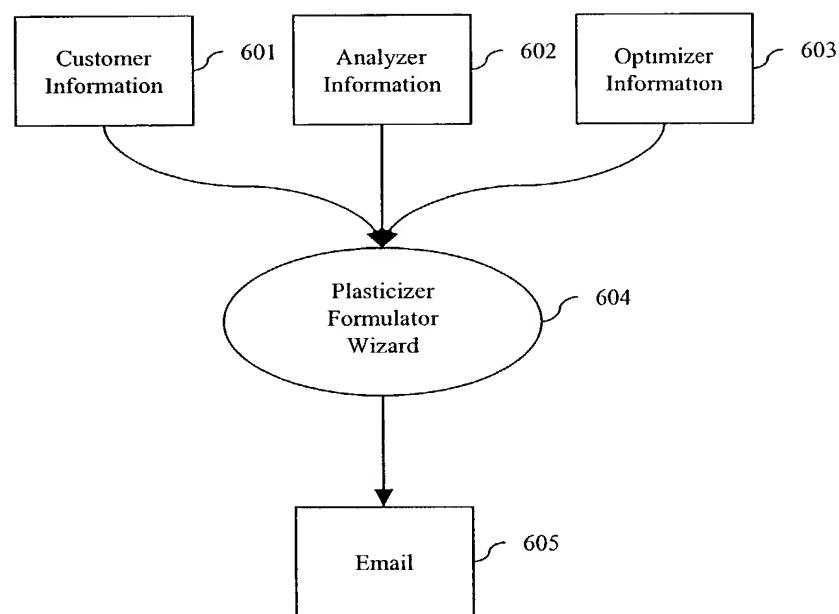


FIG. 6A

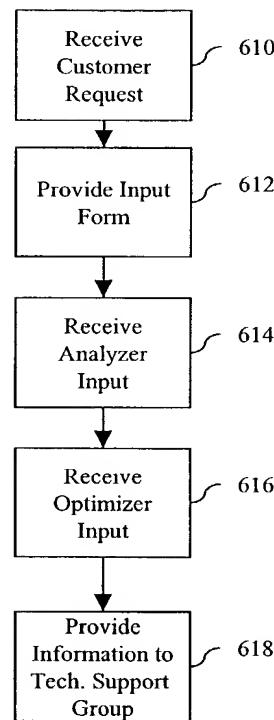


FIG. 6B

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
 Inventors: BASSETT et al.
 Express Mail No. EV 032 196 431 US

The screenshot shows the "Plasticizer Formulator" software running in Microsoft Internet Explorer. The title bar reads "Plasticizer Formulator - Microsoft Internet Explorer". The main window has a header "Plasticizer Formulator" and "EASTMAN". Below the header are links for "Contact Us", "How To Use The Wizard", and "Close Window". A link "Return To The Customer Information" is also present. The central area is titled "ANALYZER". It contains a table with columns for "Ingredients", "PHR (Parts per Hundred Resin)", and "Cost/Dollar/Pound". The table rows are labeled 620 through 626. The first row (620) has entries for "PVC Resin 1" and "PVC Resin 2". Subsequent rows (621-626) have entries for "Plasticizer 1", "Plasticizer 2", "Plasticizer 3", "Plasticizer 4", and "Plasticized Soybean Oil" respectively. Each row has a "Required field to predict physical properties" column.

FIG. 6C

The screenshot shows the "Plasticizer Formulator" software running in Microsoft Internet Explorer. The title bar reads "Plasticizer Formulator - Microsoft Internet Explorer". The main window has a header "Comments" and "OPTIMIZER". Below the header is a text input field for "Enter your comments for Analyzer". The central area is titled "OPTIMIZER". It contains a section "Physical Property Selection" with options for "SPECIFIC GRAVITY", "DUROMETER HARDNESS A' 5 SEC", and "TENSILE STRENGTH PSI". A note says "Select at least one property for the formulation. Hold down the CTRL key while selecting multiple properties. Click here to enter property value". Below this is a table with columns for "Physical Property", "Ingredient Names", and "Cost/Pound". The table rows are labeled 630 through 632. The first row (630) has entries for "SPECIFIC GRAVITY" and "PVC Resin 1". The second row (631) has entries for "DUROMETER HARDNESS A' 5 SEC" and "PVC Resin 2". The third row (632) has entries for "TENSILE STRENGTH PSI" and "PVC Resin 2". Each row has a "Required field to calculate formulation cost" column.

FIG. 6D

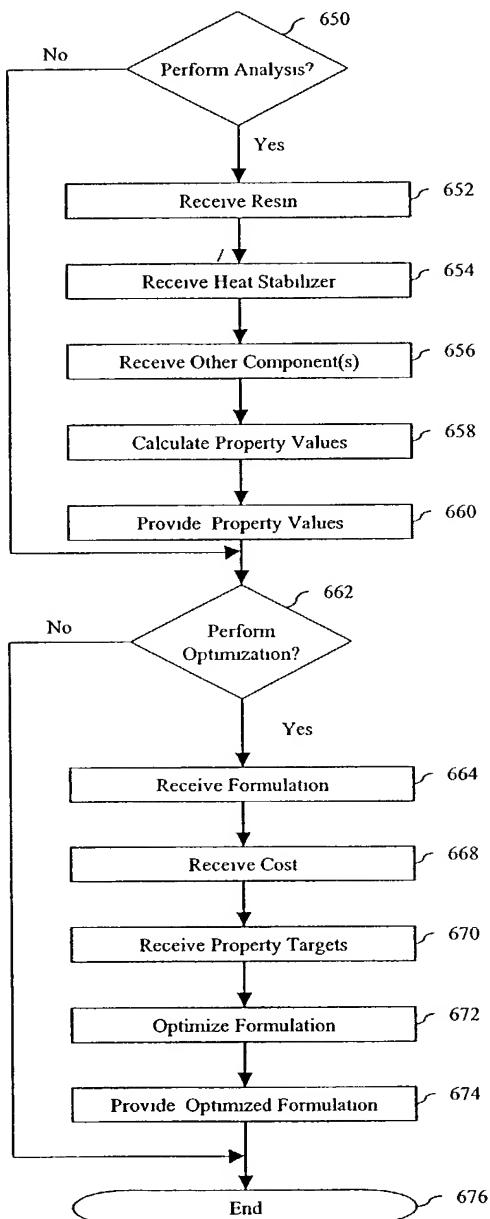
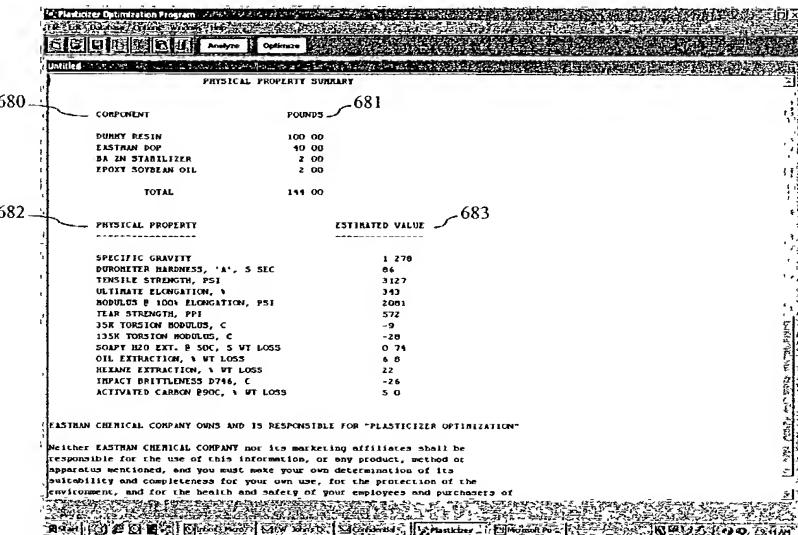


FIG. 6E

Appln. Ser. No. 10/039,482 3,033,244-3 • 04-25-03
SOFTWARE ENABLED WIZARDS
 Inventors: BASSETT et al.
 Express Mail No. EV 032 196 431 US



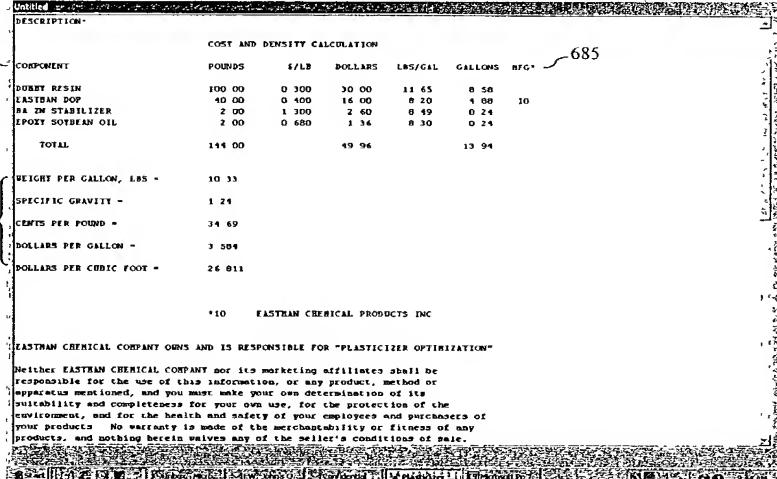
680 ~~~~~ 681
 682 ~~~~~ 683

PHYSICAL PROPERTY		ESTIMATED VALUE
SPECIFIC GRAVITY	1.270	
DUROTYRE HARDNESS, 'A', 5 SEC	66	
TENSILE STRENGTH, PSI	3127	
ULTIMATE ELONGATION, %	343	
ELASTIC MODULUS, PSI	2001	
TEAR STRENGTH, PPI	572	
JSR TORSION MODULUS, C	-9	
135K TORSION MODULUS, C	-28	
SOLVENT EXTRACT, 5 WT LOSS	0.74	
HEXANE EXTRACTION, 1 WT LOSS	6.5	
IMPACT BRITTLENESS D746, C	22	
ACTIVATED CARBON D90C, 1 WT LOSS	-26	
	5.0	

EASTMAN CHEMICAL COMPANY OWNS AND IS RESPONSIBLE FOR "PLASTICIZER OPTIMIZATION"

Neither EASTMAN CHEMICAL COMPANY nor its marketing affiliates shall be responsible for the use of this information, or any products, method or apparatus mentioned, and you must make your own determination of its suitability and completeness for your own use, for the protection of the environment, and for the health and safety of your employees and purchasers of your products. No warranty is made of the merchantability or fitness of any products, and nothing herein waives any of the seller's conditions of sale.

684 ~~~~~ 685
 686



WEIGHT PER GALLON, LBS ~ 10.33
 SPECIFIC GRAVITY ~ 1.24
 CENTS PER POUND ~ 34.69
 DOLLARS PER GALLON ~ 3.504
 DOLLARS PER CUBIC FOOT ~ 26.011

*10 EASTMAN CHEMICAL PRODUCTS INC

EASTMAN CHEMICAL COMPANY OWNS AND IS RESPONSIBLE FOR "PLASTICIZER OPTIMIZATION"

Neither EASTMAN CHEMICAL COMPANY nor its marketing affiliates shall be responsible for the use of this information, or any products, method or apparatus mentioned, and you must make your own determination of its suitability and completeness for your own use, for the protection of the environment, and for the health and safety of your employees and purchasers of your products. No warranty is made of the merchantability or fitness of any products, and nothing herein waives any of the seller's conditions of sale.

FIG. 6F

FIG. 6G

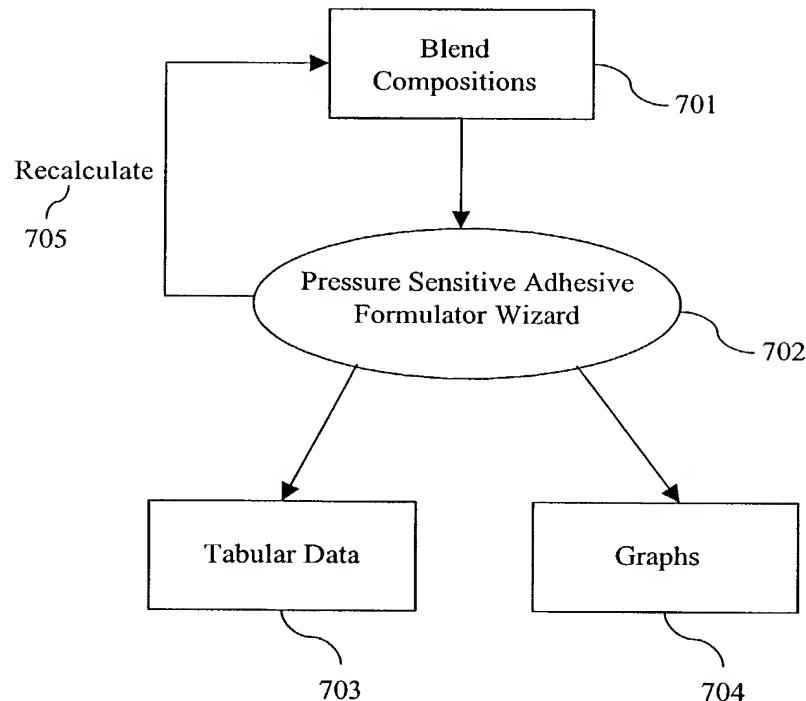


FIGURE 7A

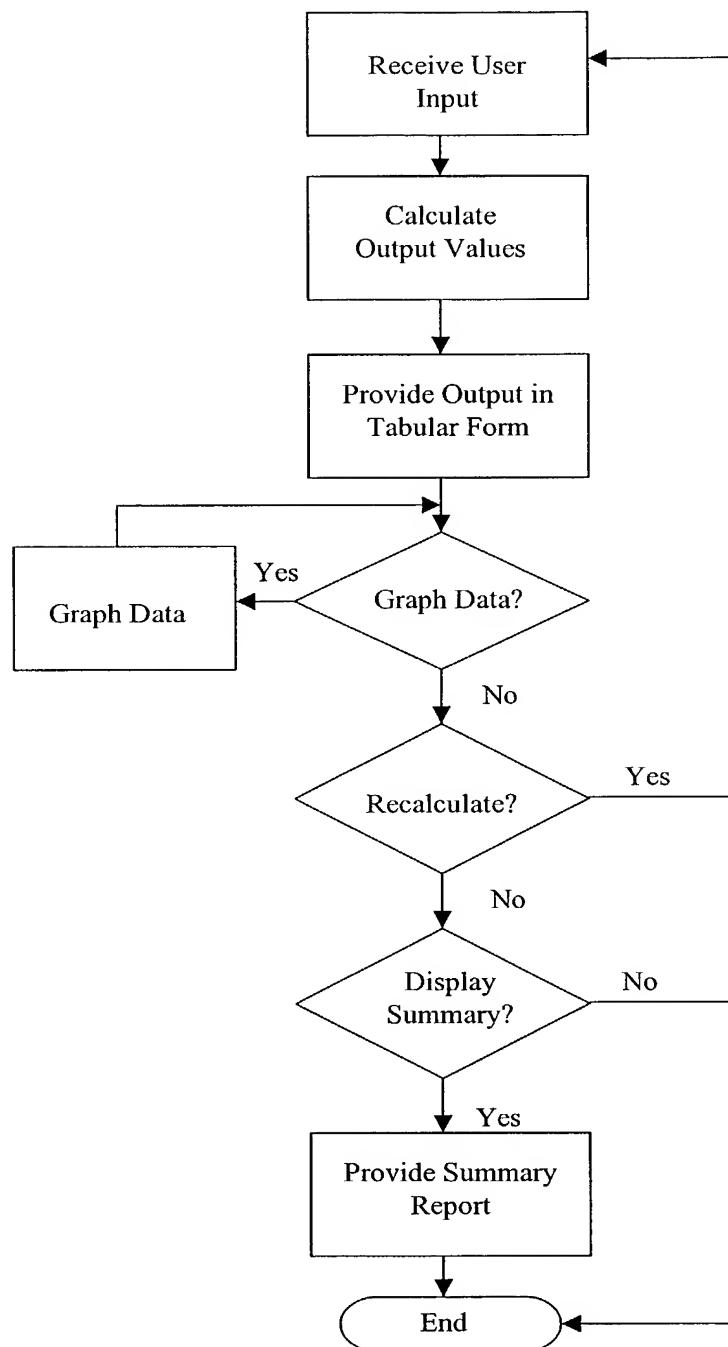


FIGURE 7B

Appl. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

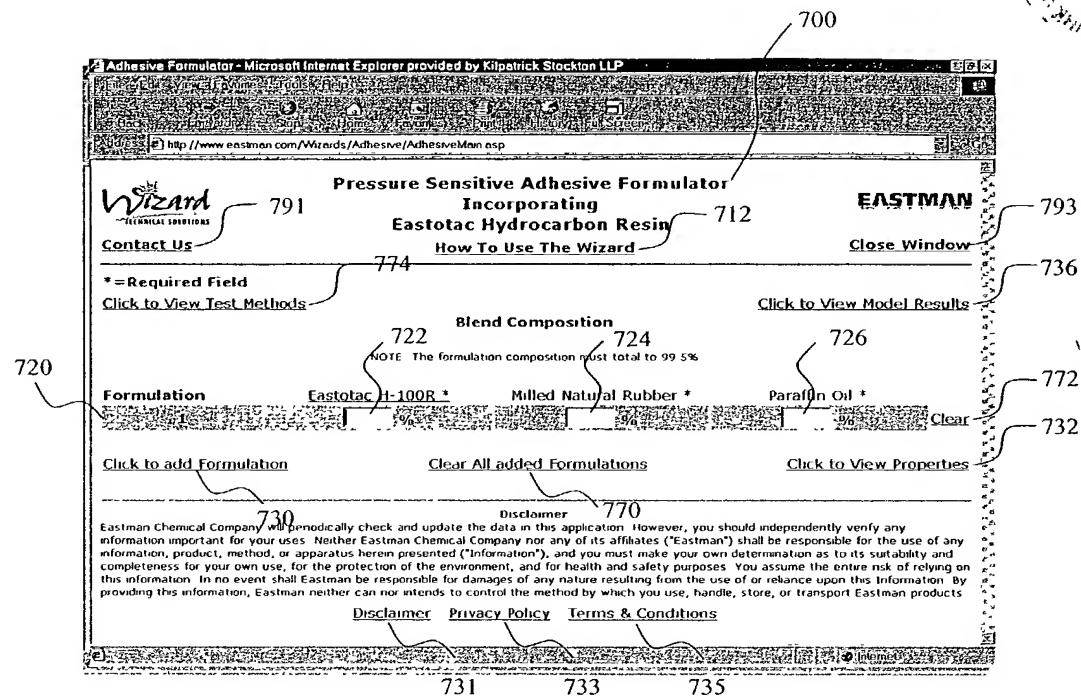


FIGURE 7C

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
 Inventors: BASSETT et al.
 Express Mail No. EV 032 196 431 US

Adhesive Formulator - Microsoft Internet Explorer provided by Kilpatrick Stockton LLP

File Edit View Favorites Tools Help

Back Forward Stop Home Favorites Print History Full Screen

Address http://www.eastman.com/Wizards/Adhesive/AdhesiveProp.asp

Pressure Sensitive Adhesive Formulator Incorporating Eastotac Hydrocarbon Resin

Contact Us **745** **EASTMAN** **Close Window**

How To Use The Wizard

[Return To Blend Composition](#) [Printer Friendly Report](#)

Blend Composition

Component *	% By Formulation	
	1	2
Eastotac H-100R	47.80	45.50
Milled Natural Rubber	42.30	42.00
Paraffin Oil	9.40	12.00

Properties **734**

180 Peel (g/mm) Graph	740	25.1	20.2
PolyKen Tack (g) Graph		512.2	467.7
Rolling Ball Tack (in) Graph		2.5	1.4
Quick Stick (g/mm) Graph		17.8	15.0

Done Internet

RT Hold Power (hours) Graph	745	39.2	28.5
SAFT (C) Graph		112.2	109.1

[Return To Blend Composition](#) [Printer Friendly Report](#)

* The adhesive raw material components consisted of Eastotac H-100R resin, natural rubber and paraffin oil along with a hindered phenol antioxidant, all dispersed in Toluene. Each formulation above contain 0.5% of Anti-Oxidant

Disclaimer
 Eastman Chemical Company will periodically check and update the data in this application. However, you should independently verify any information important for your uses. Neither Eastman Chemical Company nor any of its affiliates ("Eastman") shall be responsible for the use of any information, product, method, or apparatus herein presented ("Information"), and you must make your own determination as to its suitability and completeness for your own use, for the protection of the environment, and for health and safety purposes. You assume the entire risk of relying on this information. In no event shall Eastman be responsible for damages of any nature resulting from the use of or reliance upon this Information. By providing this information, Eastman neither can nor intends to control the method by which you use, handle, store, or transport Eastman products.

[Disclaimer](#) [Privacy Policy](#) [Terms & Conditions](#)

Done Internet

FIGURE 7D

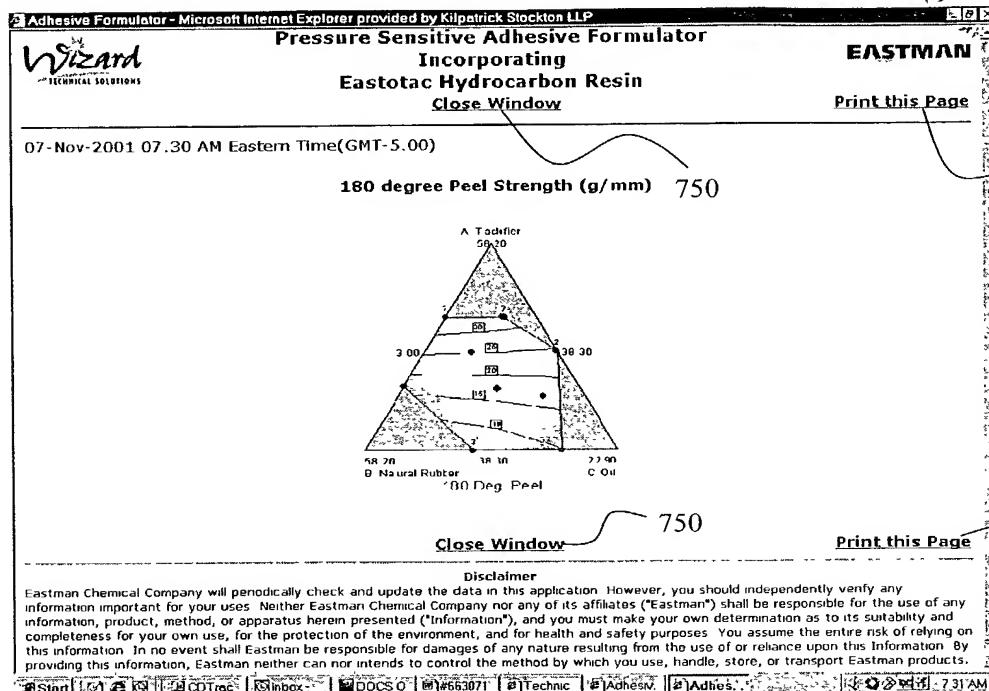


FIGURE 7E

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
 Inventors: BASSETT et al.
 Express Mail No. EV 032 196 431 US

793

Adhesive Formulator - Microsoft Internet Explorer provided by Kilpatrick Stockton LLP

Address: http://www.eastman.com/Wizards/Adhesive/AdhesivePropTestData.asp

Pressure Sensitive Adhesive Formulator
Incorporating
Eastotac Hydrocarbon Resin

Contact Us **EASTMAN** **Close Window**

How To Use The Wizard

Return To Blend Composition **Printer Friendly Report**

Formulation & Testing Data 745 799

Blend Composition

Component *	% By Formulation												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Eastotac H-100R	51.1	47.8	38.3	38.3	44.5	38.3	47.8	51.1	51.1	44.2	43.5	51.1	41.7
Milled Natural Rubber	40.9	38.3	49.7	42.8	52.0	49.7	38.3	45.4	40.9	44.9	41.6	45.4	45.1
Paraffin Oil	7.5	13.4	11.5	18.5	3.0	11.5	13.4	3.0	7.5	10.4	14.4	3.0	6.7

Properties

180 Peel (g/mm)	32.7	24.7	7.4	8.6	15.6	6.0	24.1	33.1	34.4	17.4	17.4	37.2	23.3
PolyKen Tack (6)	636	460	365	386	399	269	453	569	533	411	458	616	591
Rolling Ball Tack (in) Graph	5.7	1.7	0.7	0.6	1.7	0.8	1.8	6.4	2.7	1.0	1.0	7.1	1.3
Quick Stick (g/mm)	23.2	19.6	6.5	8.4	11.0	6.9	18.2	20.3	22.0	12.6	13.3	23.1	16.8
RT Hold Power (hours) Graph	35.6	13.7	48.8	10.5	>100	64.4	14.0	70.8	33.0	44.6	15.2	86.2	58.6
SAFT (C) Graph	105.6	90.5	121.2	94.2	126.7	115.0	92.6	119.1	101.5	120.4	103.8	126.2	120.1

Return To Blend Composition **Printer Friendly Report**

* The adhesive raw material components consisted of Eastotac H-100R resin, natural rubber and paraffin oil along with a hindered phenol antioxidant, all dispersed in Toluene. Each formulation above contain 0.5% of Anti-Oxidant

Disclaimer
 Eastman Chemical Company will periodically check and update the data in this application. However, you should independently verify any information important for your uses. Neither Eastman Chemical Company nor any of its affiliates ("Eastman") shall be responsible for the use of any information, product, method, or apparatus herein presented ("Information"), and you must make your own determination as to its suitability and completeness for your own use, for the protection of the environment, and for health and safety purposes. You assume the entire risk of relying on this information. In no event shall Eastman be responsible for damages of any nature resulting from the use of or reliance upon this Information. By providing this information, Eastman neither can nor intends to control the method by which you use, handle, store, or transport Eastman products.

Disclaimer **Privacy Policy** **Terms & Conditions**

FIGURE 7F

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

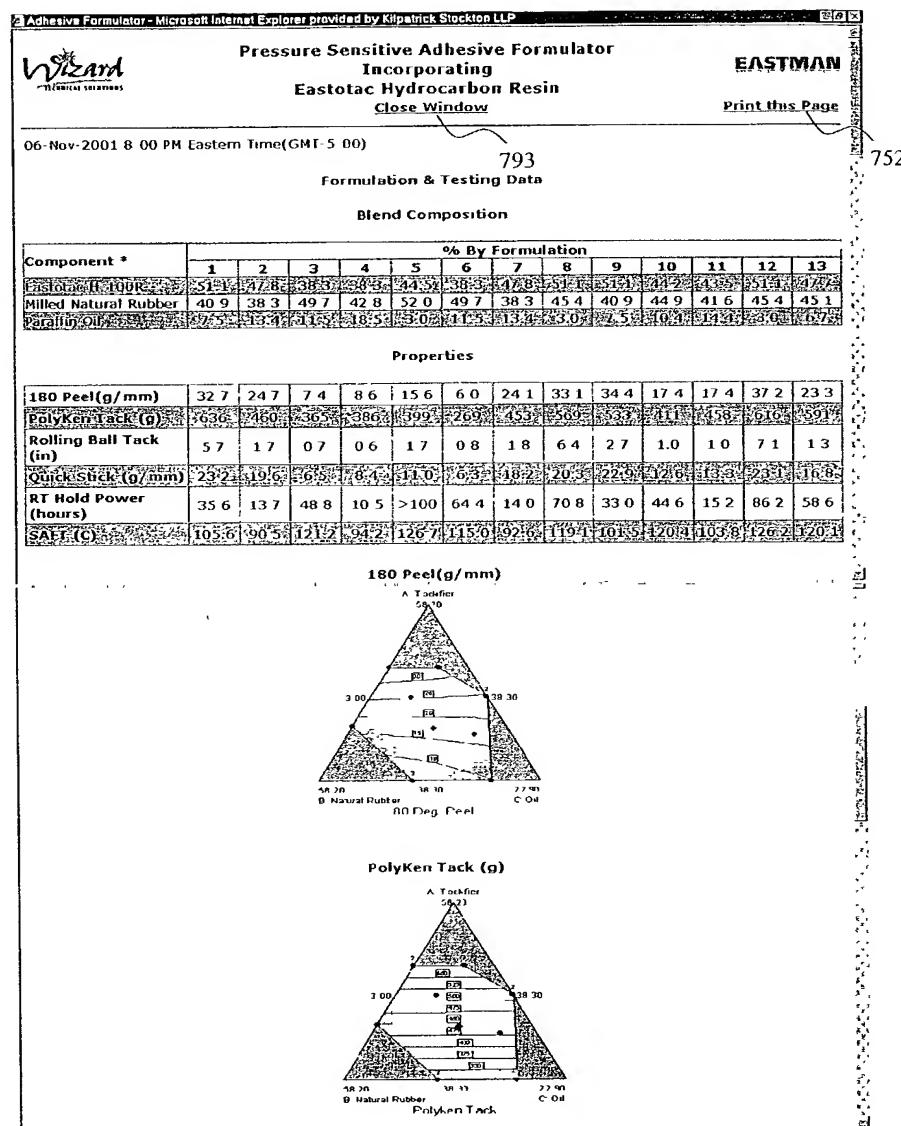


FIGURE 7G

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

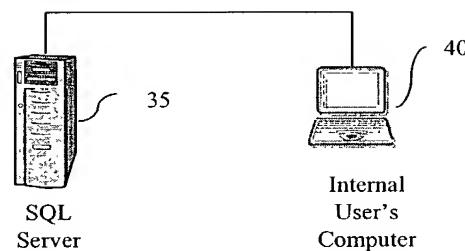


FIG. 8

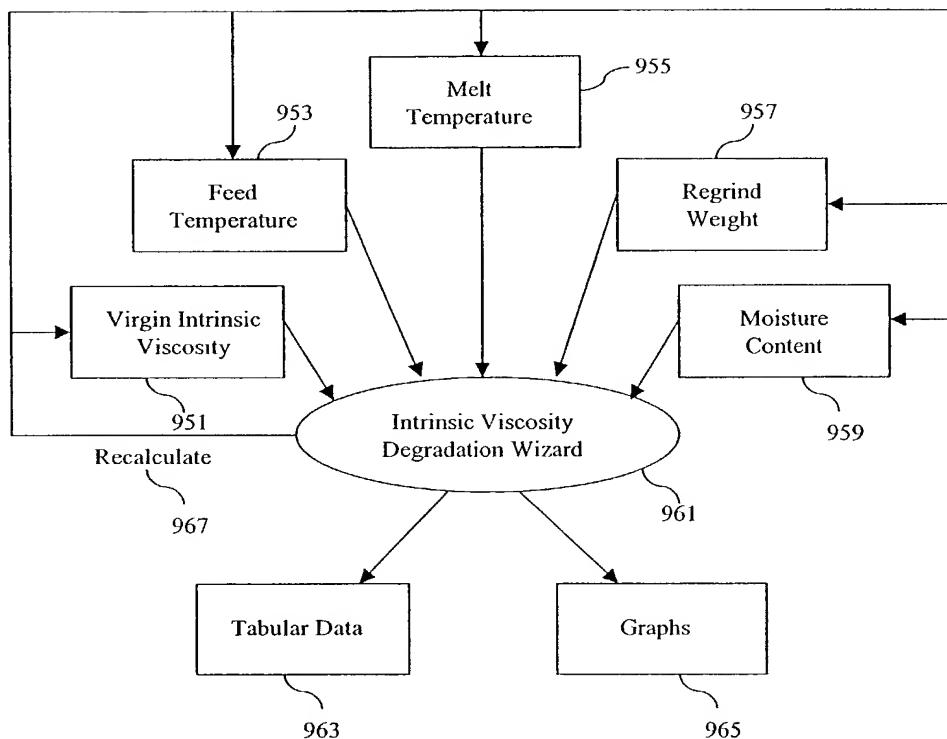


FIGURE 9A

35 U.S.C. § 111(b)(1) - 37 U.S.C. § 101
Software Enabled Wizards

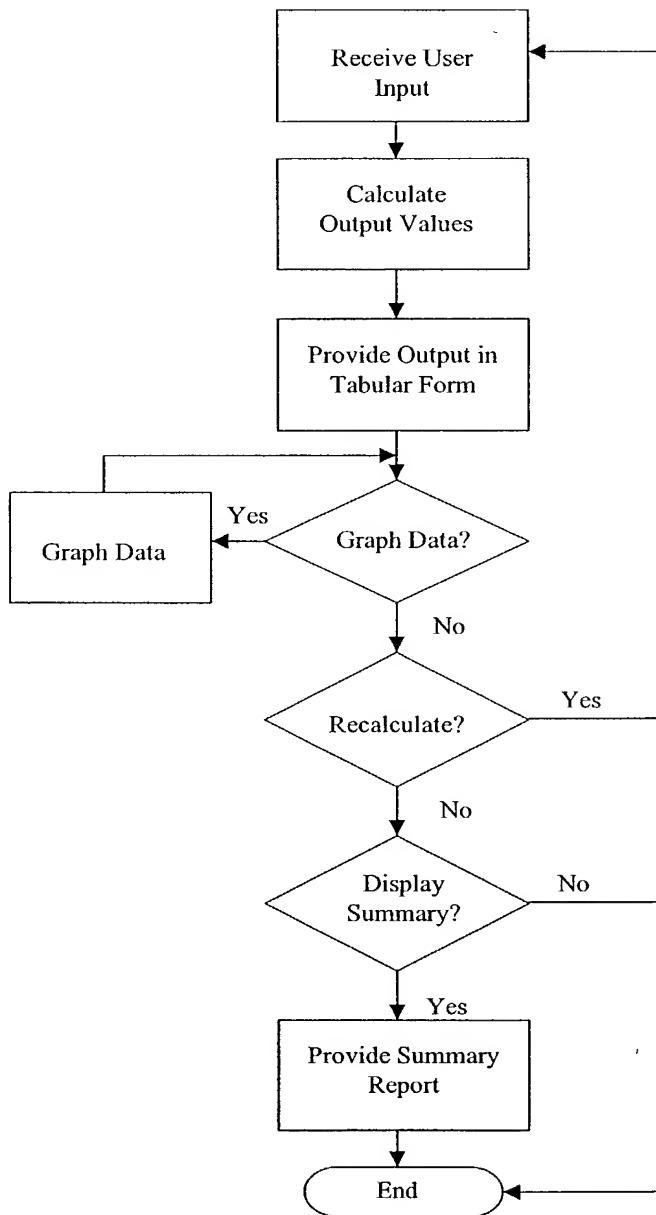


FIGURE 9B

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
 Inventors: BASSETT et al.
 Express Mail No. EV 032 196 431 US

http://www.eastman.com/Mazards/IVDegradation/IVDegradationInputs.asp

Intrinsic Viscosity Degradation Model For Eastapak PET

Contact Us 991 How To Use The Wizard Close Window 993

*=Required Field HELP2 Printer Friendly Report 999

990 912 999

Predicted Effect on Intrinsic Viscosity
 Click the appropriate link to view the graph HELP2

990

a_Regrnd_Effect
 b_Virgin Resin Intrinsic Viscosity Effect
 c_Melt Temperature Effect
 d_Feed Temperature Effect
 e_Passes Graph
 f_Regrnd_Moisture Effect
 g_Virgin Resin Moisture Effect

960

Input Parameters:

Virgin Resin Intrinsic Viscosity *	1.00	HELP2
Pellet Feed Temperature, *	30	°C
Virgin Resin Moisture Content *	0.05	wt%
Regrnd Ratio *	5	wt%
Regrind Moisture *	0.07	wt%

Calculate! 907A

Intrinsic Viscosity: 907A
 Intrinsic Viscosity before Pass 1: 1.000 di/g

Click here for the Conversion Table 950

999

Passes Detail:

Passes	Intrinsic Viscosity
Pass 1	0.000
Pass 2	0.000
Pass 3	0.000
Pass 4	0.000
Pass 5	0.000
Pass 6	0.000
Pass 7	0.000
Pass 8	0.000

Printer Friendly Report 999

Disclaimer
 Eastman Chemical Company will periodically check and update the data in this application. However, you should independently verify any information important for your uses. Neither Eastman Chemical Company nor any of its affiliates ("Eastman") shall be responsible for the use of any information, product, method, or apparatus herein presented ("Information"), and you must make your own determination as to its suitability and completeness for your own use, for the protection of the environment, and for health and safety purposes. You assume the entire risk of relying on this information. In no event shall Eastman be responsible for damages of any nature resulting from the use of or reliance upon this Information. By providing this information, Eastman neither can nor intends to control the method by which you use, handle, store, or transport Eastman products.

Disclaimer 931 Privacy Policy 933 Terms & Conditions 935

FIGURE 9C

2 Intrinsic Viscosity Degradation Model For Eastapak PET - Microsoft Internet Explorer provided by Kilpatrick Stockton LLP

File Edit View Favorites Tools Help

Back Forward Stop Home Favorites Print History Full Screen

Address http://www.eastman.com/Wizards/IVDegradation/IVDegradInputs.asp

Intrinsic Viscosity Degradation Model For Eastapak PET

EASTMAN

Contact Us How To Use The Wizard Close Window

[Printer Friendly Report](#)

*=Required Field

Input Parameters:

Virgin Resin Intrinsic Viscosity: *	0.930 dl/g	HELP?
Pellet Feed Temperature: *	30 °C	
Melt Temperature: *	275 °C	
Virgin Resin Moisture Content: *	0.005 wt%	
Regrind Ratio: *	5 wt%	
Regrind Moisture: *	0.007 wt%	

[Recalculate](#)

Intrinsic Viscosity:
 Intrinsic Viscosity before Pass 1: 0.930 dl/g

[Click here for the Conversion Table](#)

Predicted Effect on Intrinsic Viscosity
 Click the appropriate link to view the graph [HELP?](#)

920	
921	a. Regrind Effect
922	b. Virgin Resin Intrinsic Viscosity Effect
923	c. Melt Temperature Effect
924	d. Feed Temperature Effect
925	e. Passes Graph
926	f. Regrind Moisture Effect
900	g. Virgin Resin Moisture Effect

Passes Detail:

Passes	Intrinsic Viscosity
Pass 1	0.926
Pass 2	0.926
Pass 3	0.926
Pass 4	0.926
Pass 5	0.926
Pass 6	0.926
907B	
Pass 7	0.926
Pass 8	0.926

[Printer Friendly Report](#)

Disclaimer
 Eastman Chemical Company will periodically check and update the data in this application. However, you should independently verify any information important for your uses. Neither Eastman Chemical Company nor any of its affiliates ("Eastman") shall be responsible for the use of any information, product, method, or apparatus herein presented ("Information"), and you must make your own determination as to its suitability and completeness for your own use, for the protection of the environment, and for health and safety purposes. You assume the entire risk of relying on this information. In no event shall Eastman be responsible for damages of any nature resulting from the use of or reliance upon this Information. By providing this information, Eastman neither can nor intends to control the method by which you use, handle, store, or transport Eastman products.

[Disclaimer](#) [Privacy Policy](#) [Terms & Conditions](#)

[Printer Friendly Report](#)

FIGURE 9D

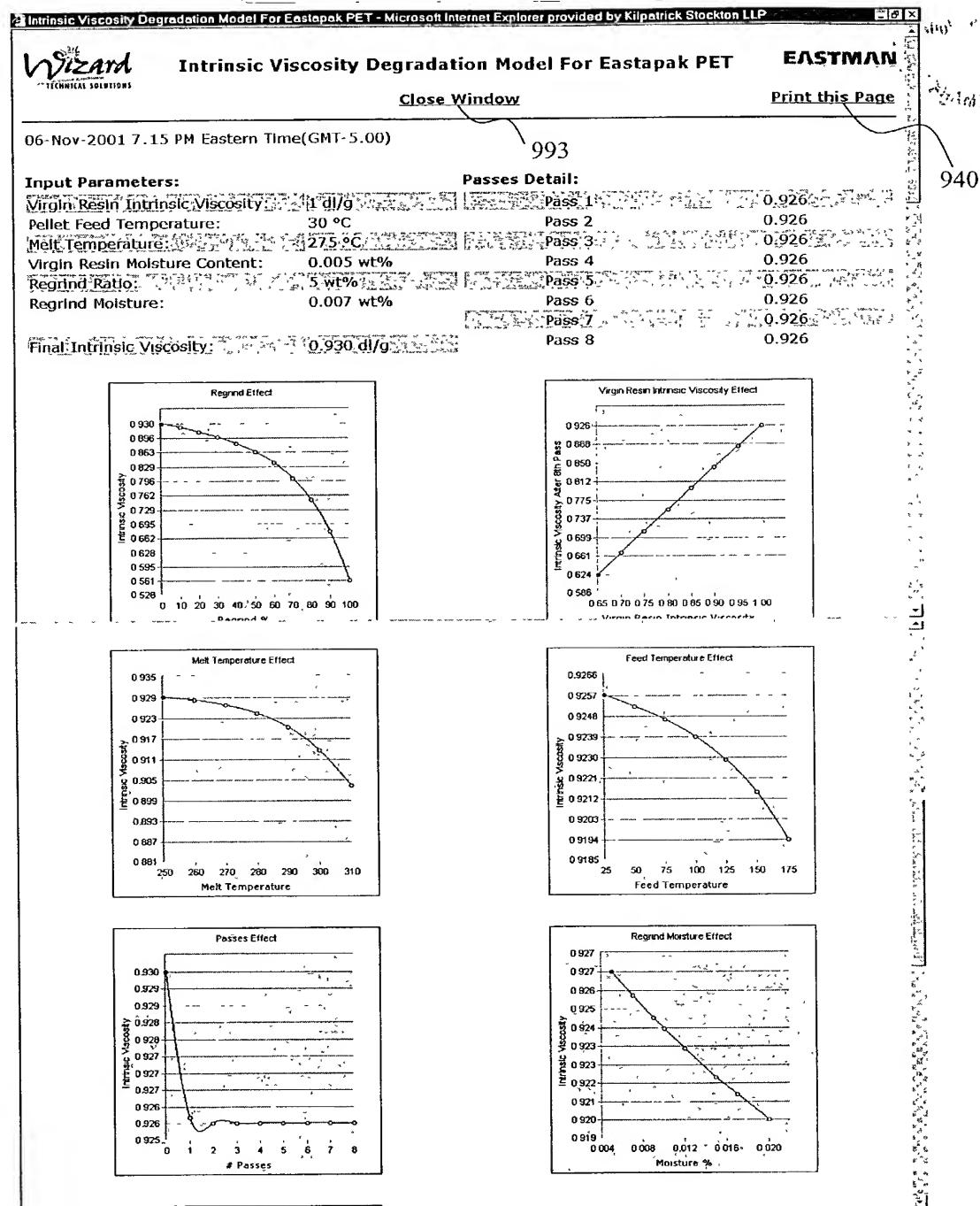


FIGURE 9E

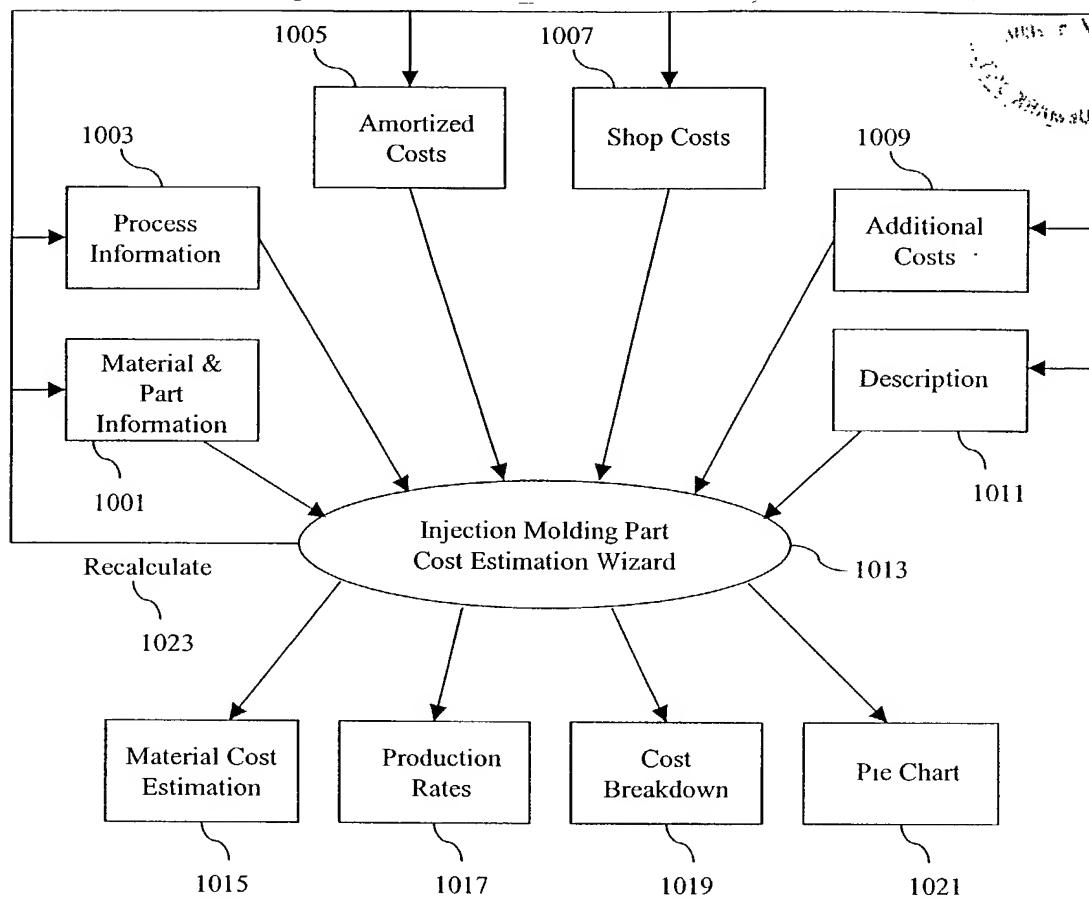


FIGURE 10A

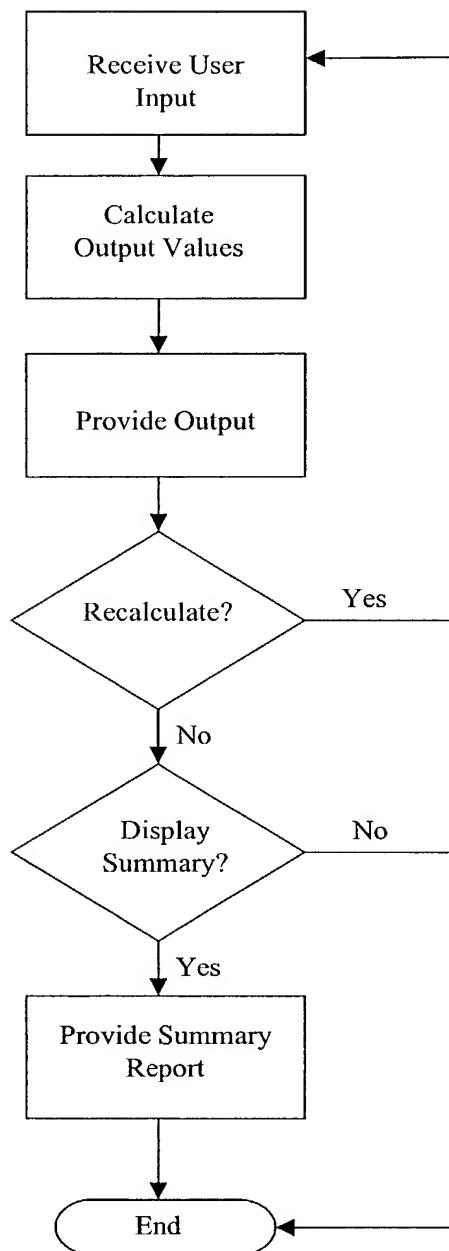


FIGURE 10B

Appln. Ser. No. 10/039,482 1003204633 • FILED 10/20/03
SOFTWARE ENABLED WIZARDS
 Inventors: BASSETT et al.
 Express Mail No. EV 032 196 431 US

Injection Molding Part Cost Estimation - Microsoft Internet Explorer provided by Kilpatrick Stockton LLP

Address: http://www.eastman.com/Wizards/PartCostEstimator/PartCostEstimator.asp

Wizard TECHNICAL SOLUTIONS

Contact Us **How To Use The Wizard** **1000 EASTMAN** **Close Window**

***=Required Field**

Input Values	Predicted Values
Descriptions	1060
Company	1040
Name of part.	1042
Description.	1044
Material	1046
Preferred Currency	1048

Material Cost Estimations:	
Material Cost per Part	1090
Virgin Material Use Rate	1090
Material Cost per Acceptable Part	1090

Production Rates:	
Gross Production Rate	1090
Rejected Parts	1090
Acceptable Parts Prod. Rate.	1090
Annual Production Rate	1090

Process Information:	
Number Of Cavities	1008
Estimated Cycle Time	30 Seconds
Reject Rate *	1014
% of Rejects Reground	1016

Cost Breakdown:	
Material	1064
Operating (Press) Costs	1064
Amortized Costs	1064
Additional Costs.	1064
Total Part Cost	1064

Amortized Costs	
Equipment Costs *	1018
Equipment Amortization Time. *	1020
Mold Cost *	1022
Mold Amortization Time. *	1024

SHOP Costs HELP? 1090

PlasticsTechnologyOnline

(For U.S. only) click here to get the rate information

1091 1092 1093 1094 1095 1096 1097 1098 1099

FIGURE 10C

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

Injection Molding Part Cost Estimation - Microsoft Internet Explorer provided by Kilpatrick Stockton LLP

File Edit View Favorites Tools Help

Address http://www.eastman.com/Wizards/PartCostEstimator/PartCostEstimator.asp

Plastic Cost Estimator

(For U.S. only) [click here](#) to get the rate information

1060

Operating hours per week: * hours 1026

Project Down Time: * 1028

Machine Cost: * 1030

Additional Cost HELP?

Secondary Operations: * 1032

Overhead Expenses: * 1034

Miscellaneous Expenses: * 1036

1050

Printer Friendly Report 1099

Disclaimer

Eastman Chemical Company will periodically check and update the data in this application; however, you should independently verify any information important for your uses. Neither Eastman Chemical Company nor any of its affiliates ("Eastman") shall be responsible for the use of any information, product, method, or apparatus herein presented ("Information"), and you must make your own determination as to its suitability and completeness for your own use, for the protection of the environment, and for health and safety purposes. You assume the entire risk of relying on this information. In no event shall Eastman be responsible for damages of any nature resulting from the use of or reliance upon this Information. By providing this information, Eastman neither can nor intends to control the method by which you use, handle, store, or transport Eastman products.

Disclaimer Privacy Policy Terms & Conditions

1031 1033 1035

FIGURE 10D

2003 RELEASE UNDER E.O. 14176

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
 Inventors: BASSETT et al.
 Express Mail No. EV 032 196 431 US

JAN 25 1999

Injection Molding Part Cost Estimation - Microsoft Internet Explorer provided by Kilpatrick Stockton LLP

Injection Molding Part Cost Estimation

EASTMAN

Contact Us **How To Use The Wizard** **Close Window**

*=Required Field

Printer Friendly Report

1099

Input Values		Predicted Values	
Descriptions HELP? Company: ABC Name of part: Name Description: Description Material: Plastic Preferred Currency: US		Material Cost Estimations: HELP? Material Cost per Part: 50.00 US per 1000 parts Virgin Material Use Rate: 5.13 kilograms per hour Material Cost per Acceptable Part: 52.78 US per 1000 parts	
		1060	
Material and Part Information HELP? Part Mass: * 50 grams (mass for 1 part only) Runner Mass: * 0 grams (enter 0 if hot runner system or if reground)		Production Rates: HELP? Gross Production Rate: 108.00 parts per hour Rejected Parts: 10.80 parts per hour	
		1062	
Process Information HELP? Number Of Cavities: * 1 Estimated Cycle Time: * 30 Seconds Reject Rate: * 10% % of Rejects Reground: * 50%		Acceptable Parts HELP? Prod. Rate: 97.20 parts per hour Annual Production Rate: 202,731.43 parts per year	
		1064	
Amortized Costs HELP? Equipment Costs: * 100000 US Equipment Amortization Time: * 10 Years Mold Cost: * 10000 US Mold Amortization Time: * 2 Years		Cost Breakdown: HELP? Material: 52.78 US per 1000 parts Operating (Press) Costs: 514.40 US per 1000 parts Amortized Costs: 73.99 US per 1000 parts Additional Costs: 110.00 US per 1000 parts Total Part Cost: 751.17 US per 1000 parts	
		1050B	
Recalculate		Recalculate	

FIGURE 10E

Injection Molding Part Cost Estimation - Microsoft Internet Explorer provided by Kilpatrick Stockton LLP

Wizard
TECHNICAL SOLUTIONS

Injection Molding Part Cost Estimation

[Close Window](#) 1093 [Print this Page](#)

06-Nov-2001 7:28 PM Eastern Time(GMT-5:00)

Input Values		Predicted Values					
Descriptions							
Company:	ABC	Material Cost Estimations:					
Name of part:		Material Cost per	50.00 US per				
Description:	Description	Part:	1000 parts				
Material:	Plastic	Virgin Material Use	5.13 kilograms				
Preferred Currency:	US	Rate:	per hour				
Material and Part Information							
Part Mass:	50 grams	Material Cost per	52.78 US per				
Runner Mass:	0 grams	Acceptable Part:	1000 parts				
Material Cost:	1 US per kilogram	Production Rates:					
Process Information							
Number Of Cavities	1	Gross Production	108.00 parts per				
Estimated Cycle Time:	30 Seconds	Rate:	hour				
Reject Rate:	10 %	Rejected Parts:	10.80 parts per				
% of Rejects Reground.	50 %	Acceptable Parts Prod	97.20 parts per				
Amortized Costs							
Equipment Costs:	100000 US	Rate:	hour				
Equipment Amortization	10 Years	Annual Production	202,731.43 per				
Time:		Rate:	1000 parts				
Mold Cost	10000 US	Cost Breakdown:					
Mold Amortization Time:	2 Years	Material:	52.78 US per				
Shop Costs							
Operating hours per week:	40	1000 parts					
Project Down Time:	10 %	Operating (Press) Costs:	514.40 US per				
Machine Cost:	50 US per hour	1000 parts					
Additional Cost							
Secondary Operations:	2 US per part	Amortized Costs:	73.99 US per				
Overhead Expenses:	4 US per part	1000 parts					
Miscellaneous Expenses:	5 US per part	Additional Costs:	110.00 US per				
Total Cost Predicted							
<table border="1"> <tr> <td>Material Cost - 7.0264%</td> <td>Operating Cost - 68.4789%</td> </tr> <tr> <td>Amortized Cost - 9.8500%</td> <td>Additional Cost - 14.8438%</td> </tr> </table>				Material Cost - 7.0264%	Operating Cost - 68.4789%	Amortized Cost - 9.8500%	Additional Cost - 14.8438%
Material Cost - 7.0264%	Operating Cost - 68.4789%						
Amortized Cost - 9.8500%	Additional Cost - 14.8438%						

1093 [Close Window](#) [Print this Page](#)

Disclaimer
 Eastman Chemical Company will periodically check and update the data in this application. However, you should independently verify any information important for your uses. Neither Eastman Chemical Company nor any of its affiliates ("Eastman") shall be responsible for the use of any information, product, method, or apparatus herein presented ("Information"), and you must make your own determination as to its suitability and completeness for your own use, for the protection of the environment, and for health and safety purposes. You assume the entire risk of relying on this information. In no event shall Eastman be responsible for damages of any nature resulting from the use of or reliance upon this Information. By providing this information, Eastman neither can nor intends to control the method by which you use, handle, store, or transport Eastman products.

FIGURE 10F

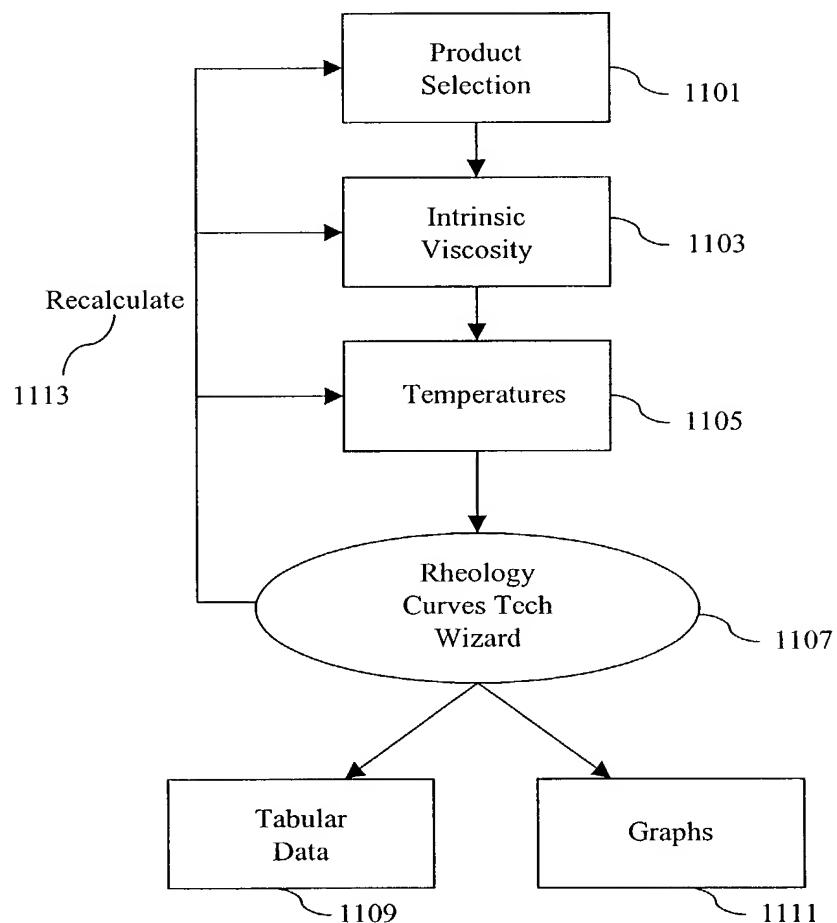


FIGURE 11A

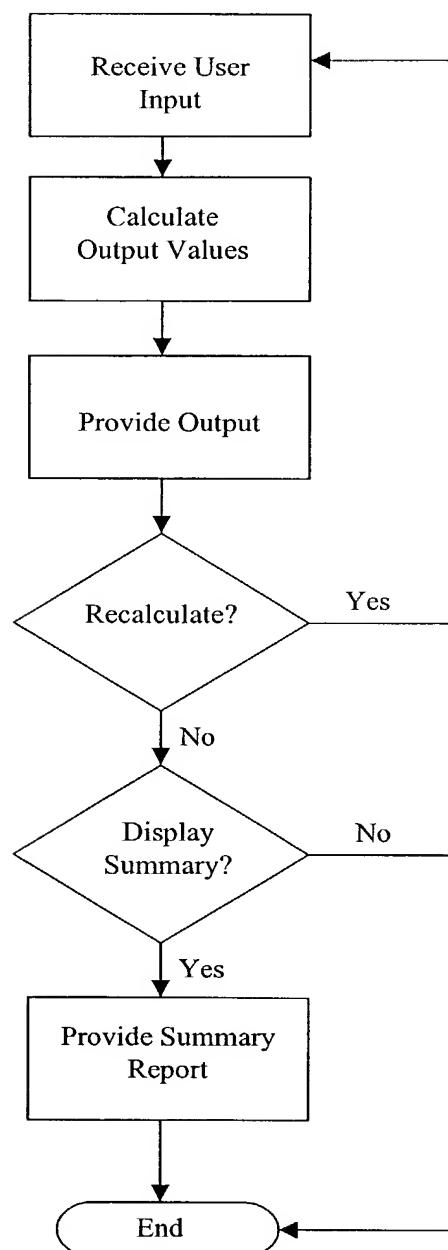


FIGURE 11B

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

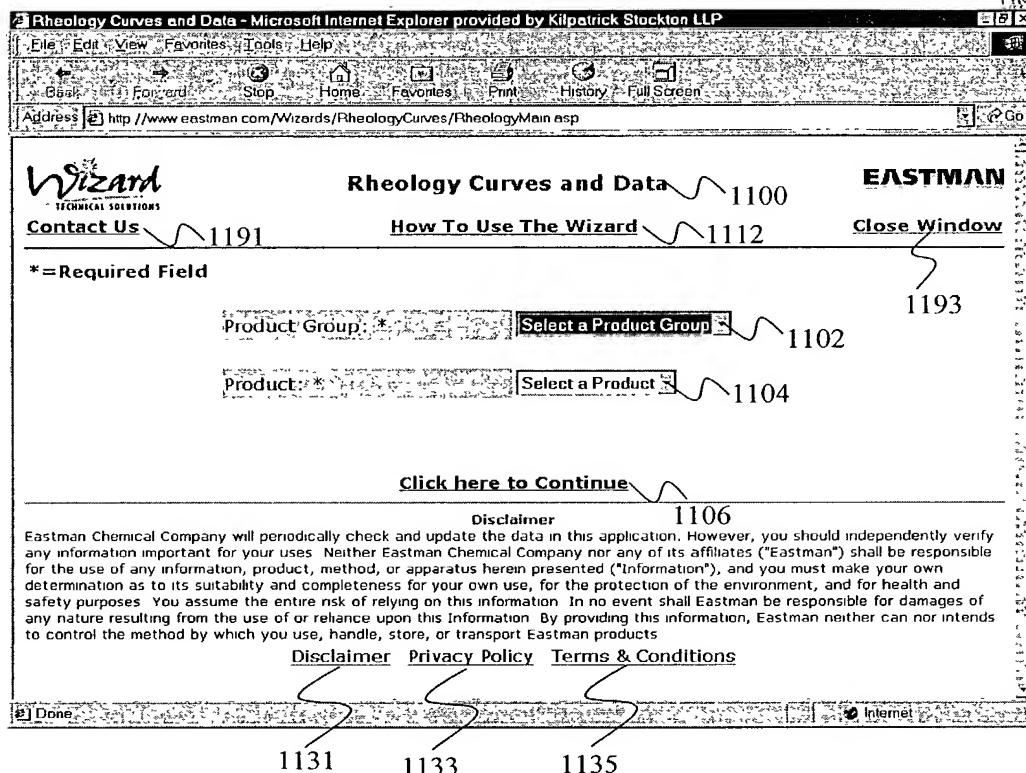


FIGURE 11C

Appl. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

10039482 04225432

Rheology Curves and Data - Microsoft Internet Explorer provided by Kilpatrick Stockton LLP

File Edit View Favorites Tools Help

Back Forward Stop Home Favorites Print History Full Screen

Address http://www.eastman.com/Wizards/RheologyCurves/Rheology.asp

Rheology Curves and Data

Contact Us **How To Use The Wizard** **EASTMAN** **Close Window**

*=Required Field

Product Group: EASTPAK PET **Product:** EASTPAK AQUA Polymer 18696

1160 [Click Here to view the Product Information, MSDS, etc.](#)

Input Parameters **HELP?** **Shear Rate and Viscosity** **HELP?**

Intrinsic Viscosity (dl/g): *	0.71	Shear Rate (s ⁻¹ or r/s)	Viscosity (P) of Temperature
Temperature 1 (°C): *	1142	1	0.0
Temperature 2 (°C):	1144	10	0.0
Temperature 3 (°C):	0	100	0.0
	1120	400	0.0
	Calculate	1000	0.0
	1146	4000	0.0
		10000	0.0

1190

Done **Internet**

Met Viscosity of EASTPAK PET

Viscosity vs. Shear Rate (s⁻¹, r/s)

Viscosity at 285 °C

Printer Friendly Report

Disclaimer

Eastman Chemical Company will periodically check and update the data in this application. However, you should independently verify any information important for your uses. Neither Eastman Chemical Company nor any of its affiliates ("Eastman") shall be responsible for the use of any information, product, method, or apparatus herein presented ("Information"), and you must make your own determination as to its suitability and completeness for your own use, for the protection of the environment, and for health and safety purposes. You assume the entire risk of relying on this information. In no event shall Eastman be responsible for damages of

1190

Done **Internet**

FIGURE 11D

Appln. Ser. No. 10/039,482
 SOFTWARE ENABLED WIZARDS
 Inventors: BASSETT et al.
 Express Mail No. EV 032 196 431 US

Rheology Curves and Data - Microsoft Internet Explorer provided by Kilpatrick Stockton LLP

File Edit View Favorites Tools Help

Back Forward Stop Home Favorites Print History Full Screen

Address http://www.eastman.com/Wizards/RheologyCurves/Rheology.asp?Flag=S

Wizard TECHNICAL SOLUTIONS **EASTMAN**

Contact Us How To Use The Wizard Close Window

*=Required Field Printer Friendly Report

Product Group: EASTAPAK PET

Product: EASTAPAK AQUA Polymer 18696

Click Here to view the Product Information, MSDS, etc.

1199

Input Parameters

Intrinsic Viscosity (dl/g): *	0.71
Temperature 1 (°C): *	285
Temperature 2 (°C):	305
Temperature 3 (°C):	0

1120B Recalculate

Shear Rate and Viscosity

Shear Rate (sec ⁻¹ or rad/sec)	Viscosity (P) at 285°C	Viscosity (P) at 305°C
1	4622	3082
10	4459	3003
100	3832	2684
400	3012	2226
1000	2319	1798
4000	1314	1096
10000	818	710

1161

Met Viscosity of EASTAPAK PET

(2) Done Internet

1162

Printer Friendly Report

1199

Disclaimer

Eastman Chemical Company will periodically check and update the data in this application. However, you should independently verify any information important for your uses. Neither Eastman Chemical Company nor any of its affiliates ("Eastman") shall be responsible for the use of any information, product, method, or apparatus herein presented ("Information"), and you must make your own determination as to its suitability and completeness for your own use, for the protection of the environment, and for health and safety purposes. You assume the entire risk of relying on this information. In no event shall Eastman be responsible for damages of

(2) Internet

FIGURE 11E

Appl. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

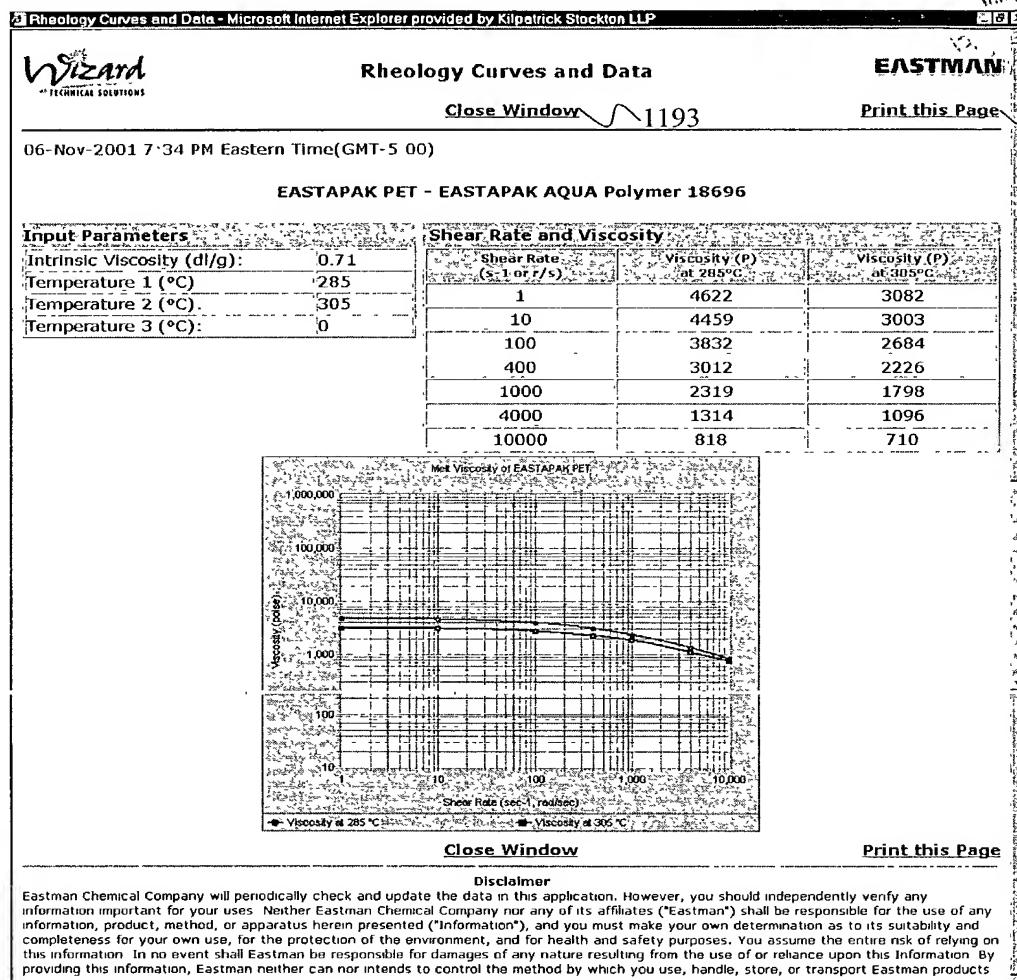


FIGURE 11F

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

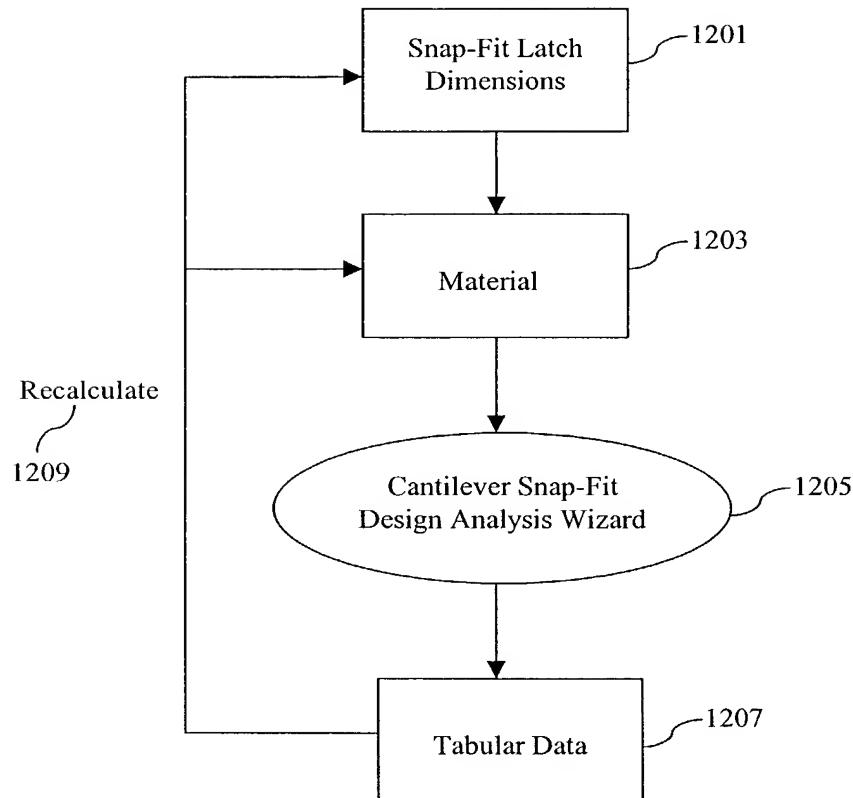


FIGURE 12A

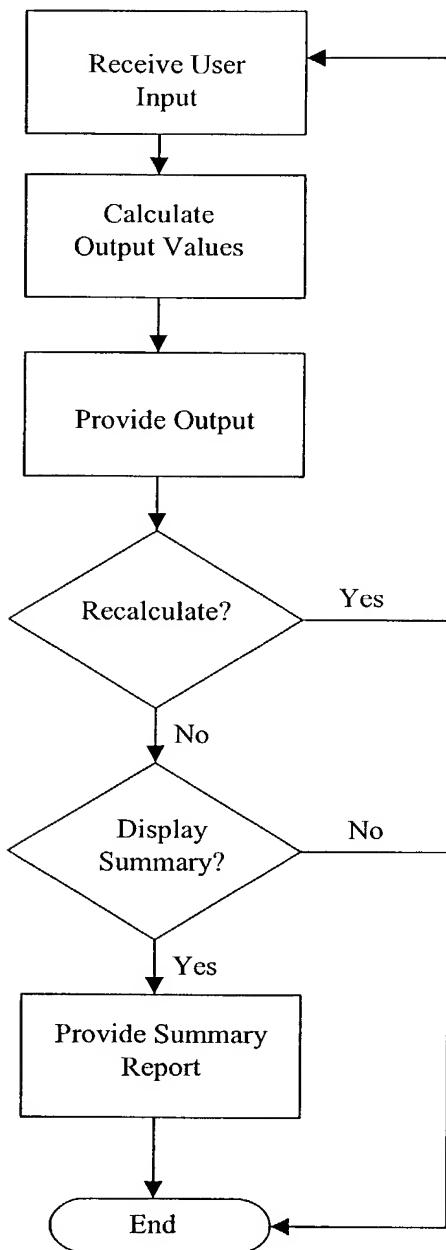


FIGURE 12B

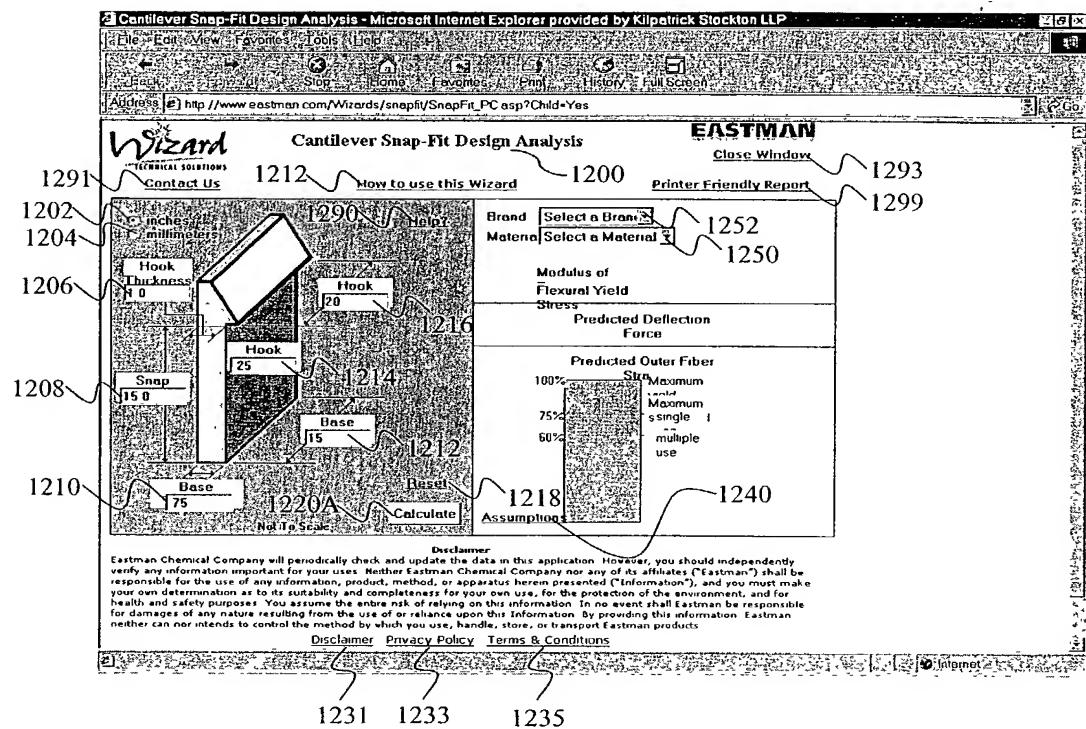


FIGURE 12C

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

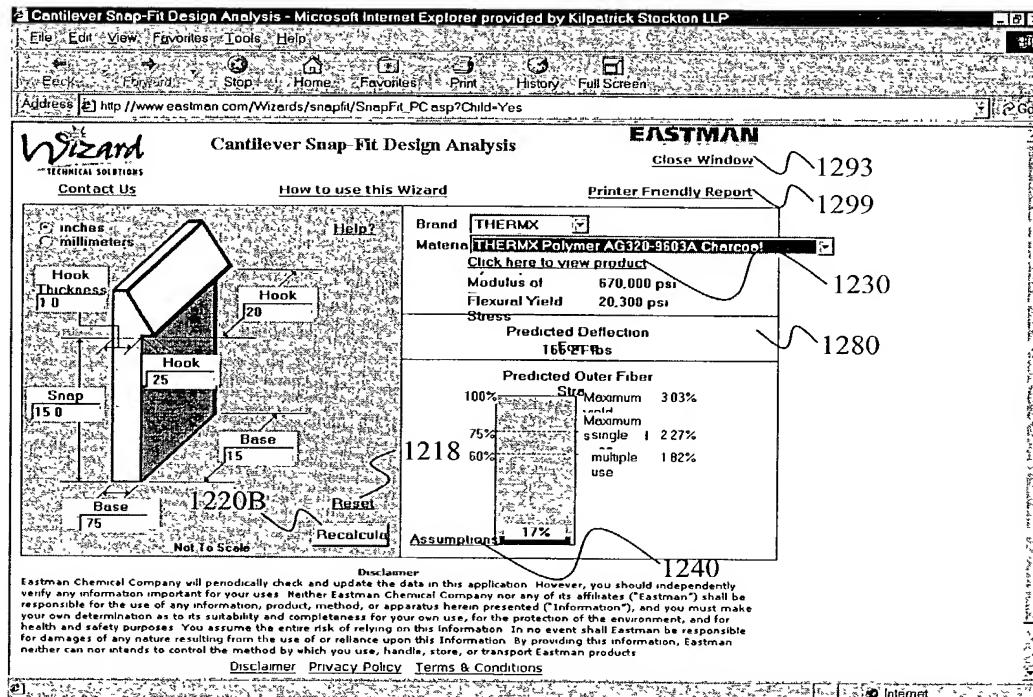


FIGURE 12D

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

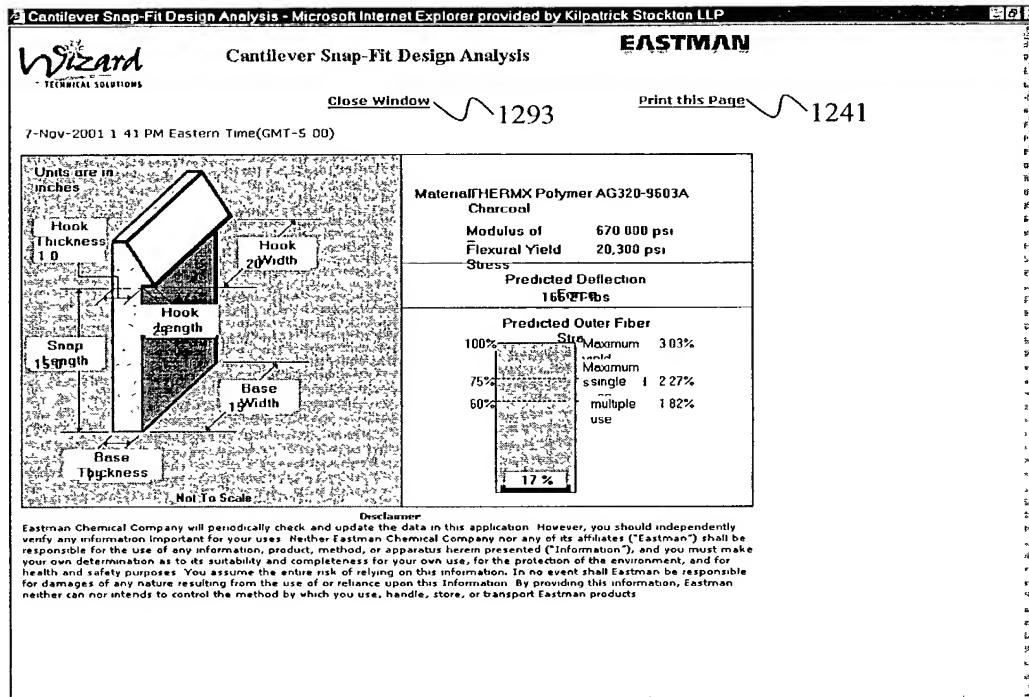


FIGURE 12E

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

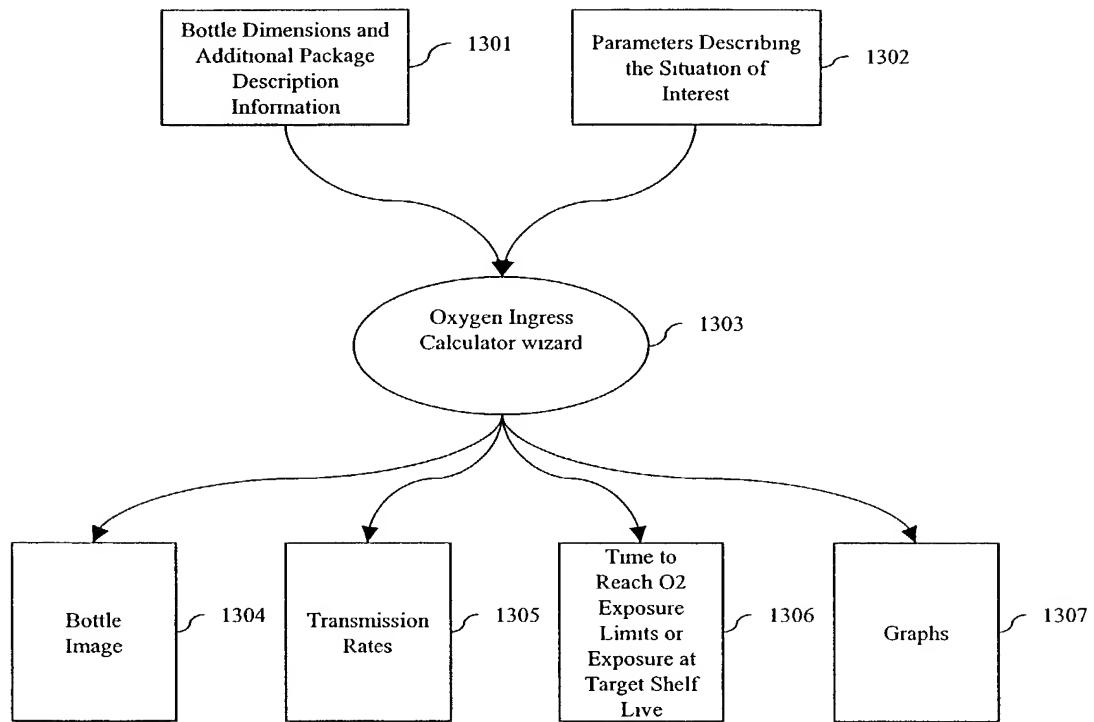


FIG. 13A

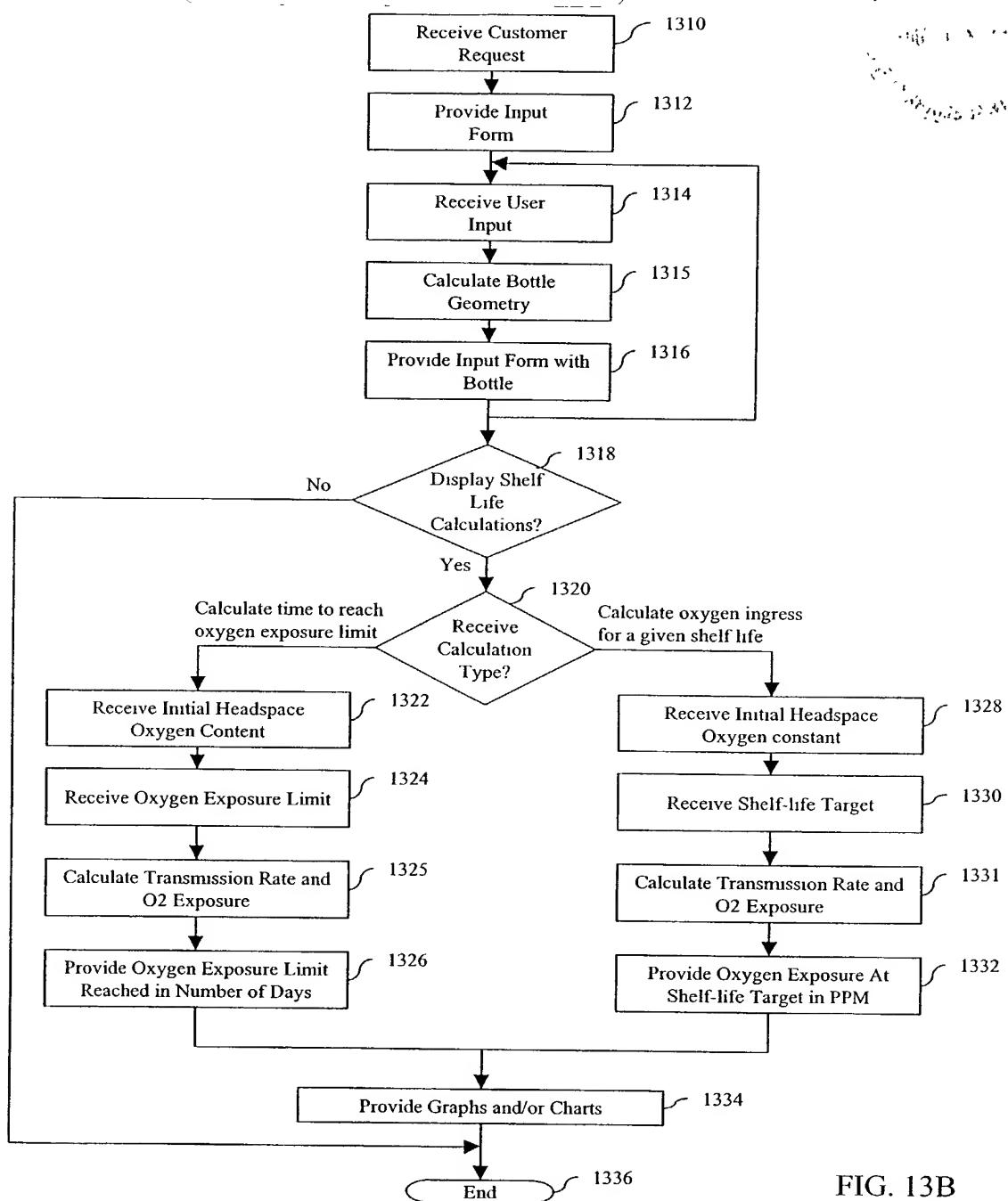


FIG. 13B

Wizard
 TECHNICAL SOLUTIONS

Oxygen Ingress Calculator for PET Monolayer Containers

EASTMAN

[Contact Us](#) [How To Use The Wizard](#) [Close Window](#)

*=Required Field

Container Specifications		HELP?
Container Volume:	500	ml
Container Type:	Select Container Type	
Headspace Volume:	ml	
Container Weight:	25.9	grams
Diameter:	69.5	mm
Sidewall Ht/Shoulder Ht:	2	
Finish Diameter:	Select Finish Diameter	
Closure Type:	Select Closure Type	

1350

1352

1354

1356

1357

1358

1360

1362

1364

1366

1368

1370

[Click here for Conversion Table](#)

[Assumptions](#) [Click here for Shelf Life Calculations](#)

Dsw=Diameter of Sidewall; Hb=Height of Base Hsw=Height of Sidewall, Hsh=Height of Shoulder

FIG. 13C

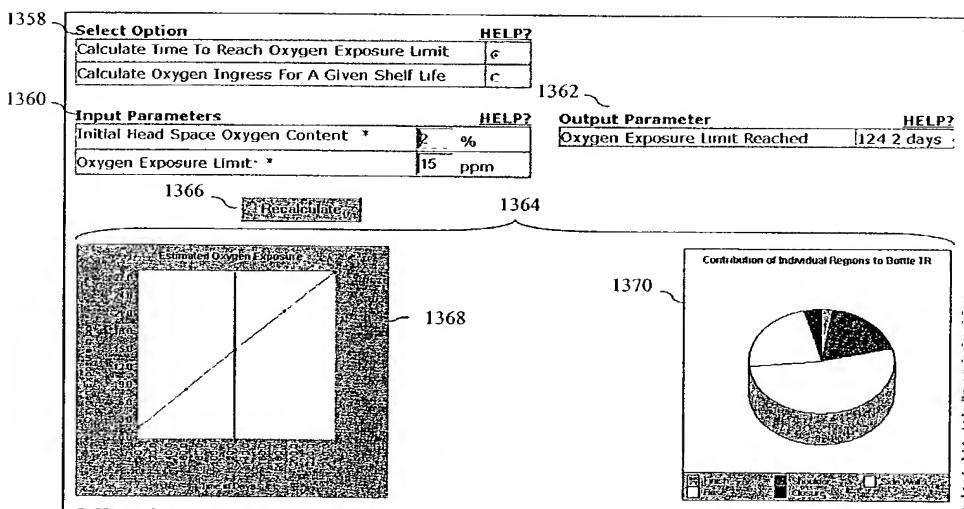


FIG. 13D

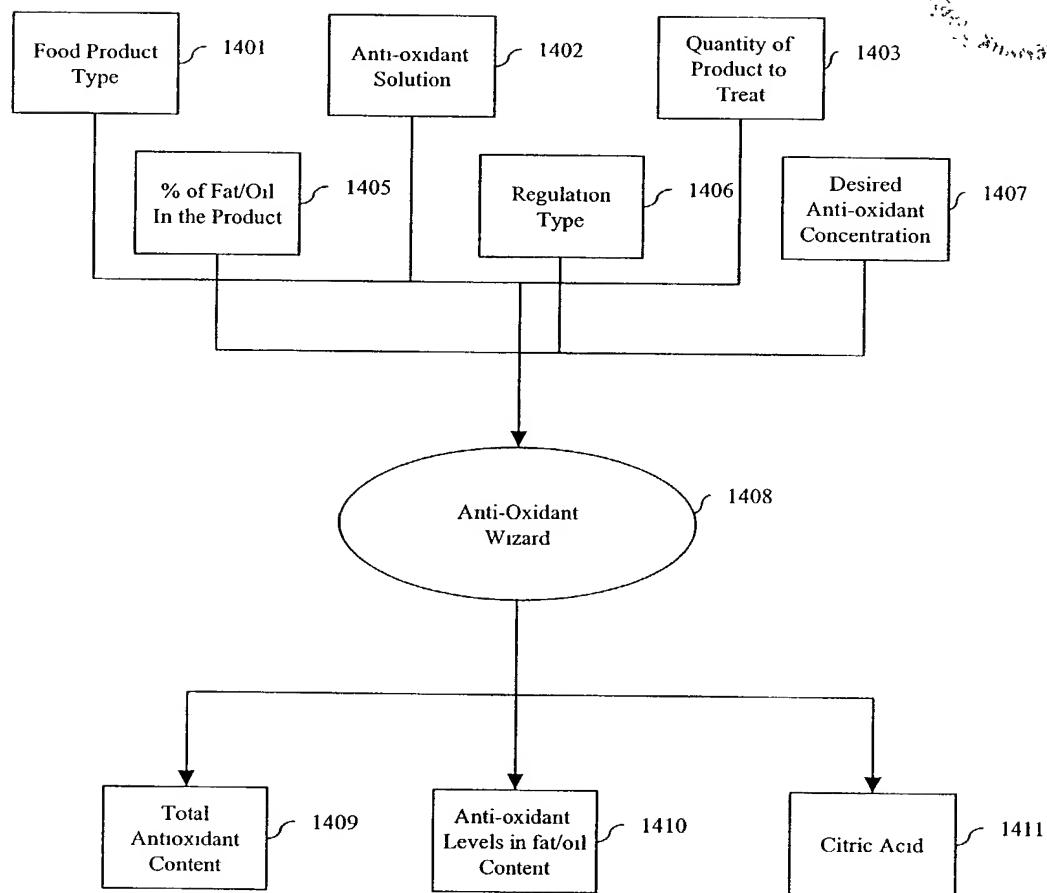


FIG. 14A

SEARCHED
INDEXED
MAILED
JULY 1999
FBI - NEW YORK

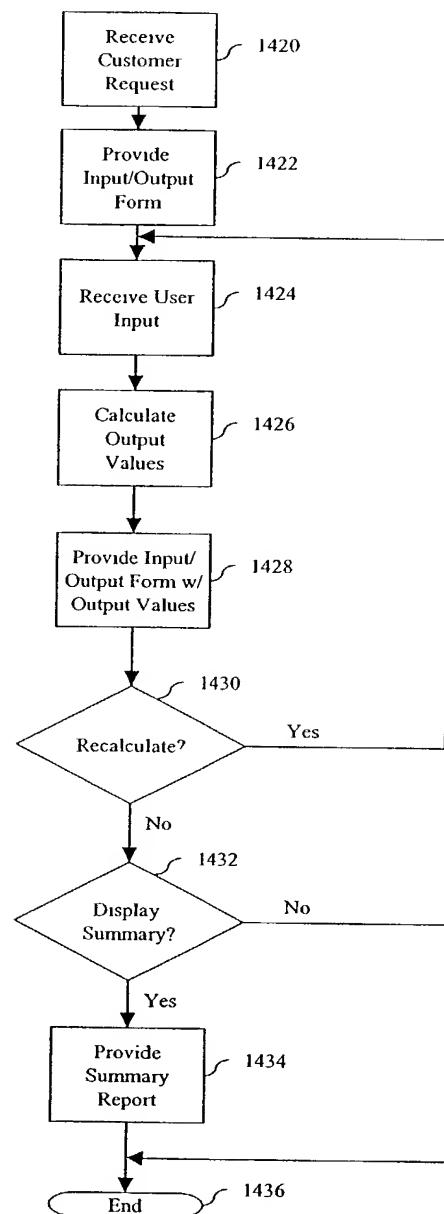


FIG. 14B

Appl. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

1450

1452

Antioxidant Calculator

Wizard
TECHNICAL SOLUTIONS

Contact Us How To Use The Wizard Close Window

*=Required Field Click here to see a listing of Recommended Tenox Products for various Applications

Input Parameters

Food Product: [HELP?](#)

Tenox Product to be used: *

Quantity of Food Product to treat: *

Weight units: *

Fat/oil percentage in food product: *

Regulation to be used: *

Total Antioxidant Concentration desired: *

Do you wish to convert the Antioxidant weight to volume. * Yes No

Antioxidant levels in fat/oil content

BHA
BHT
TBHQ
Propyl Gallate
Total Antioxidant Level
Citric Acid
Amount of Tenox-6 to add: *

Done Local Intranet zone

FIG. 14C

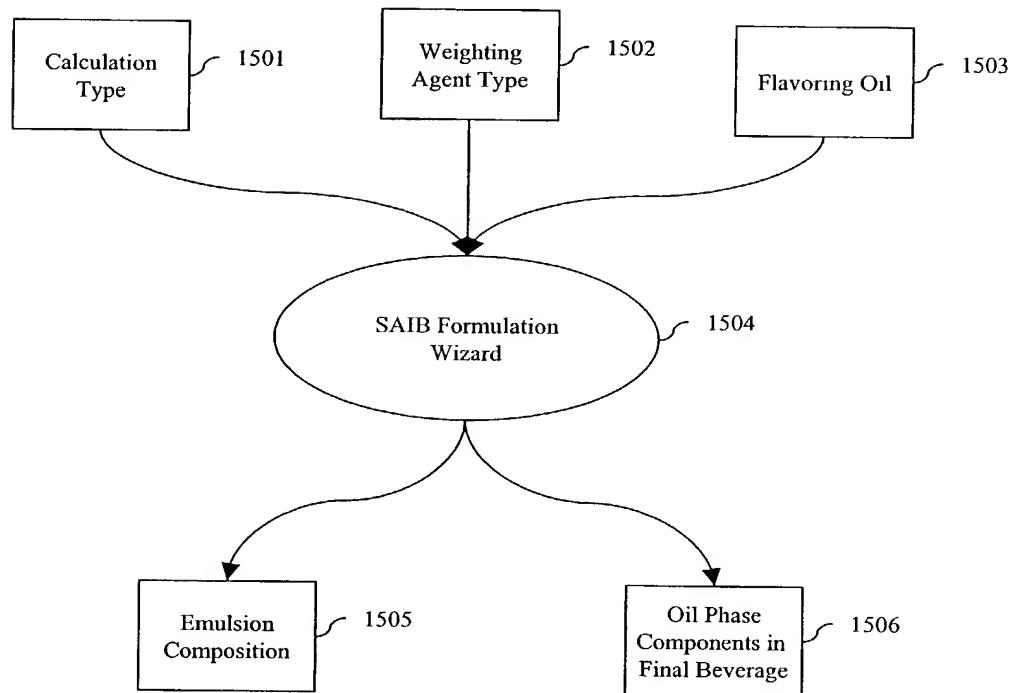


FIG. 15A

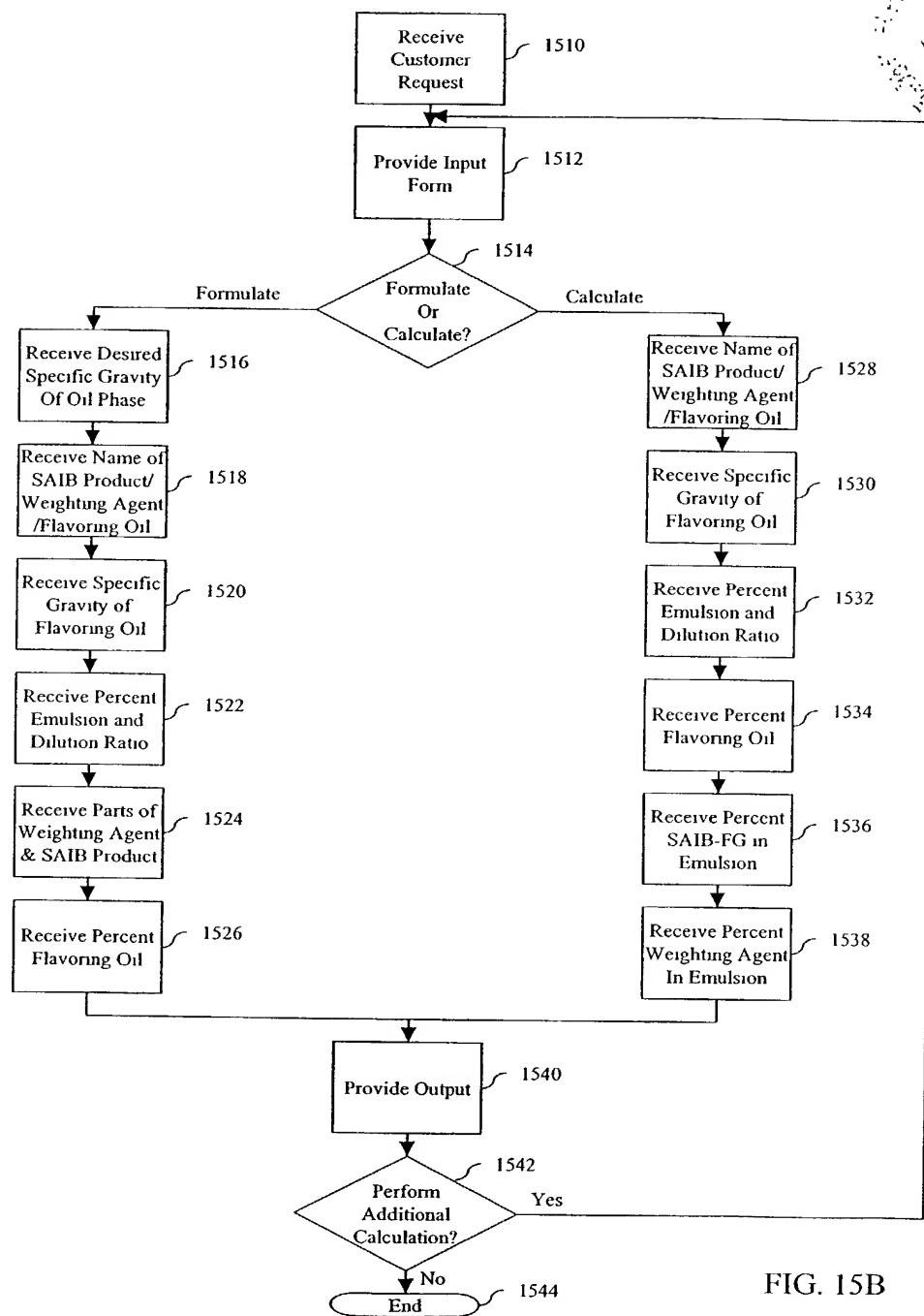


FIG. 15B

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

http://eastmen/wizardsprototype/saibformulation/SAIBInfo.asp - Microsoft Internet Explorer

SAIB Beverage Formulation

EASTMAN

Contact Us How To Use The Wizard Close Window

* = Required Field

To access the online Eastman SAIB-FG brochure, click here [Eastman SAIB-FG Brochure](#)
For additional information about Eastman SAIB, click here [SAIB_The Oldest New Ingredient](#)
For information on regulations, click here [Regulatory Status of SAIB](#)

Federal Register listing for SAIB [SAIB Federal Register Excerpt](#)
For additional information about specific SAIB products, click here [Eastman SAIB Products Information](#)

General Information

Enter Project Description: [HELP?](#)

Enter Sample description: [Orange flavored Emulsion](#) [HELP?](#)

Do you wish to: (Choice 1) formulate to a desired oil phase specific gravity, or (Choice 2) calculate an oil phase specific gravity from existing ratios of oil and weighting agents? Choice 1 [HELP?](#)

1550 Enter Desired Specific Gravity of oil phase:

1552 Choice 1 [HELP?](#)

1553 Enter Desired Specific Gravity of oil phase: [HELP?](#)

1554 Select name of SAIB product: [Select One](#) [HELP?](#)

1555 Select name of SAIB product: [Select One](#) [HELP?](#)

1556 Enter name of flavoring oil to be used:

1557 Enter specific gravity of flavoring oil:

Intermediate values

Dilution rate	300 1
Specific Gravity of Weighting agent	0.00
Specific Gravity of SAIB Product	0.00
Specific Gravity of SAIB in SAIB Product	0.00
Percent SAIB in SAIB Product	0 %
Specific Gravity of Weighting Agents	0.00
Ratio of weighting agents to oil	0 1

1558
1559
1560
1561
1562
1563
1564
1565

FIG. 15C

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

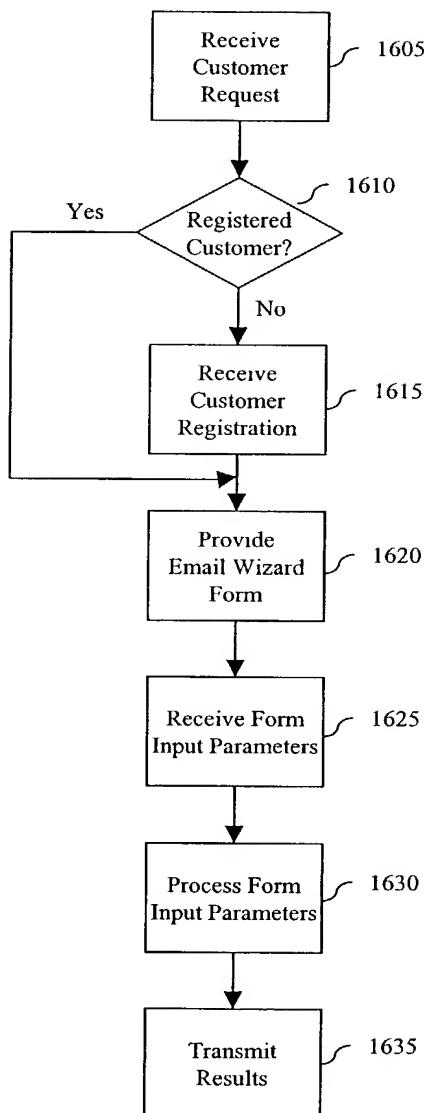


FIG. 16

1701
1702
1703
1704
1705
1706
1707

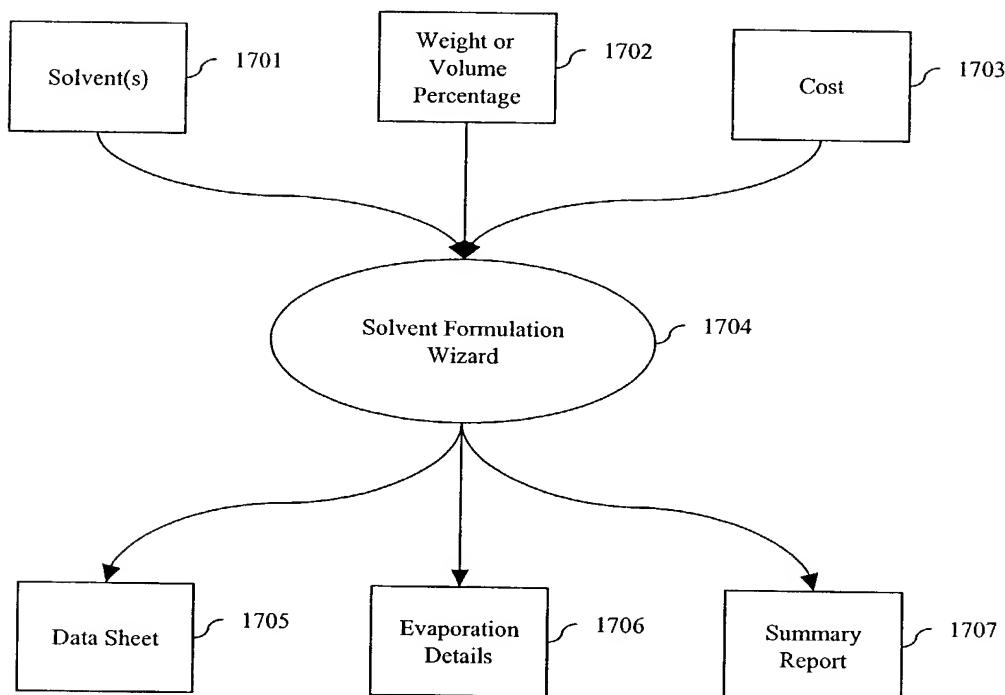


FIG. 17A

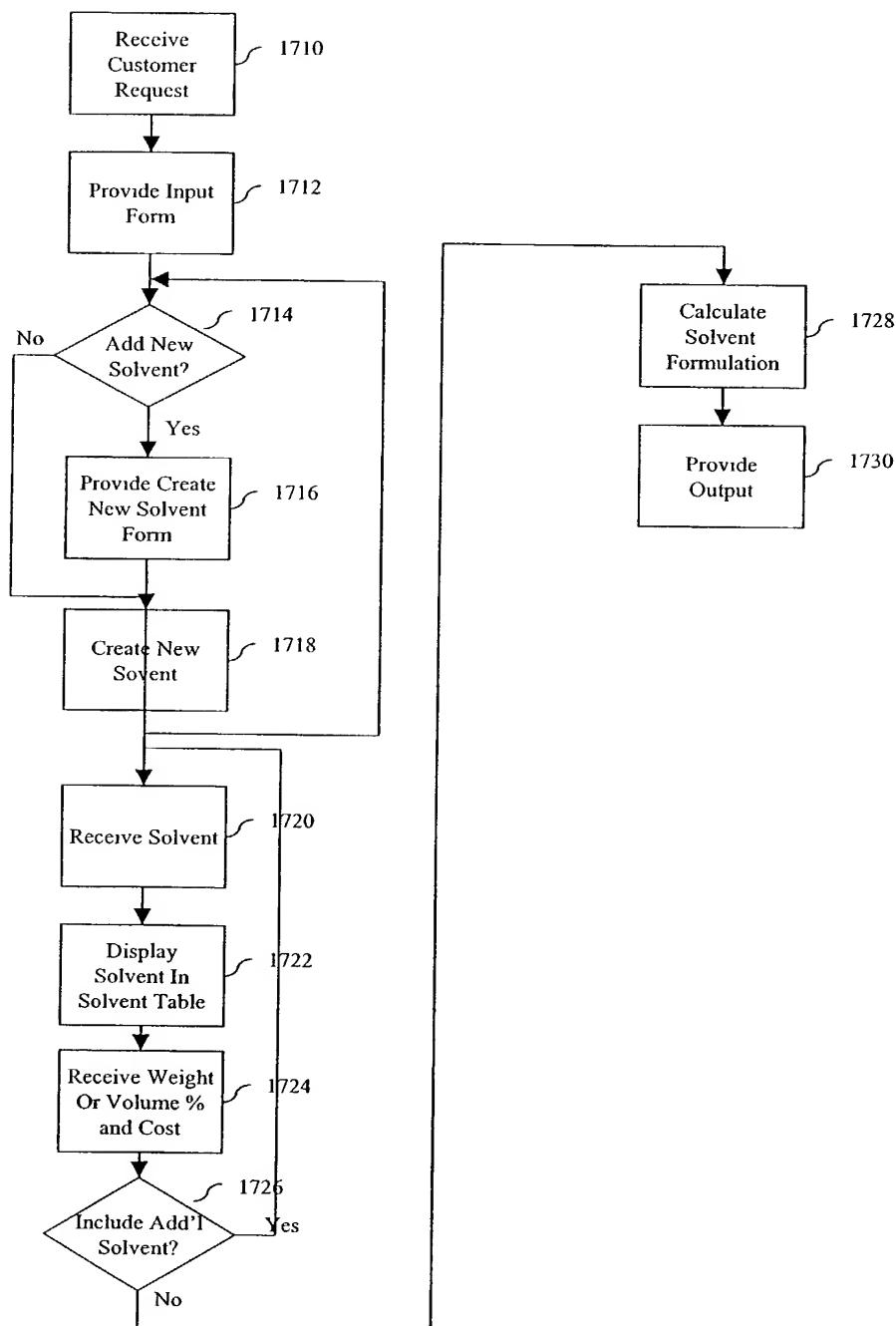


FIG. 17B

Appn. Ser. No. 10/039,482 141039482 . 0442502
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

1750

1751

1752

1753

1755

1756

1757

1758

1759

1760

1761

1762

1763

1764

1765

1766

1767

1768

1769

1770

1771

1772

1773

1774

1775

1776

1777

1778

1779

1780

1781

1782

1783

1784

1785

1786

1787

1788

1789

1790

1791

1792

1793

1794

1795

1796

1797

1798

1799

1800

1801

1802

1803

1804

1805

1806

1807

1808

1809

1810

1811

1812

1813

1814

1815

1816

1817

1818

1819

1820

1821

1822

1823

1824

1825

1826

1827

1828

1829

1830

1831

1832

1833

1834

1835

1836

1837

1838

1839

1840

1841

1842

1843

1844

1845

1846

1847

1848

1849

1850

1851

1852

1853

1854

1855

1856

1857

1858

1859

1860

1861

1862

1863

1864

1865

1866

1867

1868

1869

1870

1871

1872

1873

1874

1875

1876

1877

1878

1879

1880

1881

1882

1883

1884

1885

1886

1887

1888

1889

1890

1891

1892

1893

1894

1895

1896

1897

1898

1899

1900

1901

1902

1903

1904

1905

1906

1907

1908

1909

1910

1911

1912

1913

1914

1915

1916

1917

1918

1919

1920

1921

1922

1923

1924

1925

1926

1927

1928

1929

1930

1931

1932

1933

1934

1935

1936

1937

1938

1939

1940

1941

1942

1943

1944

1945

1946

1947

1948

1949

1950

1951

1952

1953

1954

1955

1956

1957

1958

1959

1960

1961

1962

1963

1964

1965

1966

1967

1968

1969

1970

1971

1972

1973

1974

1975

1976

1977

1978

1979

1980

1981

1982

1983

1984

1985

1986

1987

1988

1989

1990

1991

1992

1993

1994

1995

1996

1997

1998

1999

2000

2001

2002

2003

2004

2005

2006

2007

2008

2009

2010

2011

2012

2013

2014

2015

2016

2017

2018

2019

2020

2021

2022

2023

2024

2025

2026

2027

2028

2029

2030

2031

2032

2033

2034

2035

2036

2037

2038

2039

2040

2041

2042

2043

2044

2045

2046

2047

2048

2049

2050

2051

2052

2053

2054

2055

2056

2057

2058

2059

2060

2061

2062

2063

2064

2065

2066

2067

2068

2069

2070

2071

2072

2073

2074

2075

2076

2077

2078

2079

2080

2081

2082

2083

2084

2085

2086

2087

2088

2089

2090

2091

2092

2093

2094

2095

2096

2097

2098

2099

2100

2101

2102

2103

2104

2105

2106

2107

2108

2109

2110

2111

2112

2113

2114

2115

2116

2117

2118

2119

2120

2121

2122

2123

2124

2125

2126

2127

2128

2129

2130

2131

2132

2133

2134

2135

2136

2137

2138

2139

2140

2141

2142

2143

2144

2145

2146

2147

2148

2149

2150

2151

2152

2153

2154

2155

2156

2157

2158

2159

2160

2161

2162

2163

2164

2165

2166

2167

2168

2169

2170

2171

2172

2173

2174

2175

2176

2177

2178

2179

2180

2181

2182

2183

2184

2185

2186

2187

2188

2189

2190

2191

2192

2193

2194

2195

2196

2197

2198

2199

2200

2201

2202

2203

2204

2205

2206

2207

2208

2209

2210

2211

2212

2213

2214

2215

2216

2217

2218

2219

2220

2221

2222

2223

2224

2225

2226

2227

2228

2229

2230

2231

2232

2233

2234

2235

2236

2237

2238

2239

2240

2241

2242

2243

2244

2245

2246

2247

2248

2249

2250

2251

2252

2253

2254

2255

2256

2257

2258

2259

2260

2261

2262

2263

2264

2265

2266

2267

2268

2269

2270

2271

2272

2273

2274

2275

2276

2277

2278

2279

2280

2281

2282

2283

2284

2285

2286

2287

2288

2289

2290

2291

2292

2293

2294

2295

2296

2297

2298

2299

2300

2301

2302

2303

2304

2305

2306

2307

2308

2309

2310

2311

2312

2313

2314

2315

2316

2317

2318

2319

2320

2321

2322

2323

2324

2325

2326

2327

2328

2329

2330

2331

2332

2333

2334

2335

2336

2337

2338

2339

2340

2341

2342

2343

2344

2345

2346

2347

2348

2349

2350

2351

2352

2353

2354

2355

2356

2357

2358

2359

2360

2361

2362

2363

2364

2365

2366

2367

2368

2369

2370

2371

2372

2373

2374

2375

2376

2377

2378

2379

2380

2381

2382

2383

2384

2385

2386

2387

2388

2389

2390

2391

2392

2393

2394

2395

2396

2397

2398

2399

2400

2401

2402

2403

2404

2405

2406

2407

2408

2409

2410

2411

2412

2413

2414

2415

2416

2417

2418

2419

2420

2421

2422

2423

2424

2425

2426

2427

2428

2429

2430

2431

2432

2433

2434

2435

2436

2437

2438

2439

2440

2441

2442

2443

2444

2445

2446

2447

2448

2449

2450

2451

2452

2453

2454

2455

2456

2457

2458

2459

2460

2461

2462

2463

2464

2465

2466

2467

2468

2469

2470

2471

2472

2473

2474

2475

2476

2477

2478

2479

2480

2481

2482

2483

2484

2485

2486

2487

2488

2489

2490

2491

2492

2493

2494

2495

2496

2497

2498

2499

2500

2501

2502

2503

2504

2505

2506

2507

2508

2509

2510

2511

2512

2513

2514

2515

2516

2517

2518

2519

2520

2521

2522

2523

2524

2525

2526

2527

2528

2529

2530

2531

2532

2533

2534

2535

2536

2537

2538

2539

2540

2541

2542

2543

2544

2545

2546

2547

2548

2549

2550

2551

2552

2553

2554

2555

2556

2557

2558

2559

2560

2561

2562

2563

2564

2565

2566

2567

2568

2569

2570

2571

2572

2573

2574

2575

2576

2577

2578

2579

2580

2581

2582

2583

2584

2585

2586

2587

2588

2589

2590

2591

2592

2593

2594

2595

2596

2597

2598

2599

2600

2601

2602

2603

2604

2605

2606

2607

2608

2609

2610

2611

2612

2613

2614

2615

2616

2617

2618

2619

2620

2621

2622

2623

2624

2625

2626

2627

2628

2629

2630

2631

2632

2633

2634

2635

2636

2637

2638

2639

2640

2641

2642

2643

2644

2645

2646

2647

2648

2649

2650

2651

2652

2653

2654

2655

2656

2657

2658

2659

2660

2661

2662

2663

2664

2665

2666

2667

2668

2669

2670

2671

2672

2673

2674

2675

2676

2677

2678

2679

2680

2681

2682

2683

2684

2685

2686

2687

2688

2689

2690

2691

2692

2693

2694

2695

2696

2697

2698

2699

2700

2701

2702

2703

2704

2705

2706

2707

2708

2709

2710

2711

2712

2713

2714

2715

2716

2717

2718

2719

2720

2721

2722

2723

2724

2725

2726

2727

2728

2729

2730

2731

2732

2733

2734

2735

2736

2737

2738

2739

2740

2741

2742

2743

2744

2745

2746

2747

2748

2749

2750

2751

2752

2753

2754

2755

2756

2757

2758

2759

2760

2761

2762

2763

2764

2765

2766

2767

2768

2769

2770

2771

2772

2773

2774

2775

2776

2777

2778

2779

2780

2781

2782

2783

2784

2785

2786

2787

2788

2789

2790

2791

2792

2793

2794

2795

2796

2797

2798

2799

2800

2801

2802

2803

2804

2805

2806

2807

2808

2809

2810

2811

2812

2813

2814

2815

2816

2817

2818

2819

2820

2821

2822

2823

2824

2825

2826

2827

2828

2829

2830

2831

2832

2833

2834

2835

2836

2837

2838

2839

2840

2841

2842

2843

2844

2845

2846

2847

2848

2849

2850

2851

2852

2853

2854

2855

2856

2857

2858

2859

2860

2861

2862

2863

2864

2865

2866

2867

2868

2869

2870

2871

2872

2873

2874

2875

2876

2877

2878

2879

2880

2881

2882

2883

2884

2885

2886

2887

2888

2889

2890

2891

2892

2893

2894

2895

2896

2897

2898

2899

2900

2901

2902

2903

2904

2905

2906

2907

2908

2909

2910

2911

2912

2913

2914

2915

2916

2917

2918

2919

2920

2921

2922

2923

2924

2925

2926

2927

2928

2929

2930

2931

2932

2933

2934

2935

2936

2937

2938

2939

2940

2941

2942

2943

2944

2945

2946

2947

2948

2949

2950

2951

2952

2953

2954

2955

2956

2957

2958

2959

2960

2961

2962

2963

2964

2965

2966

2967

2968

2969

2970

2971

2972

2973

2974

2975

2976

2977

2978

2979

2980

2981

2982

2983

2984

2985

2986

2987

2988

2989

2990

2991

2992

2993

2994

2995

2996

2997

2998

2999

3000

3001</

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

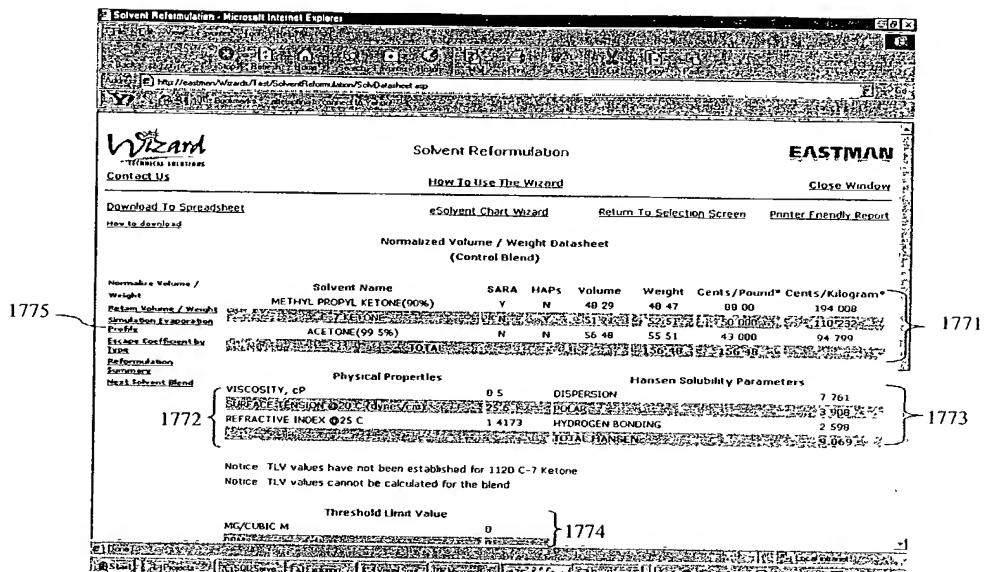


FIG. 17E

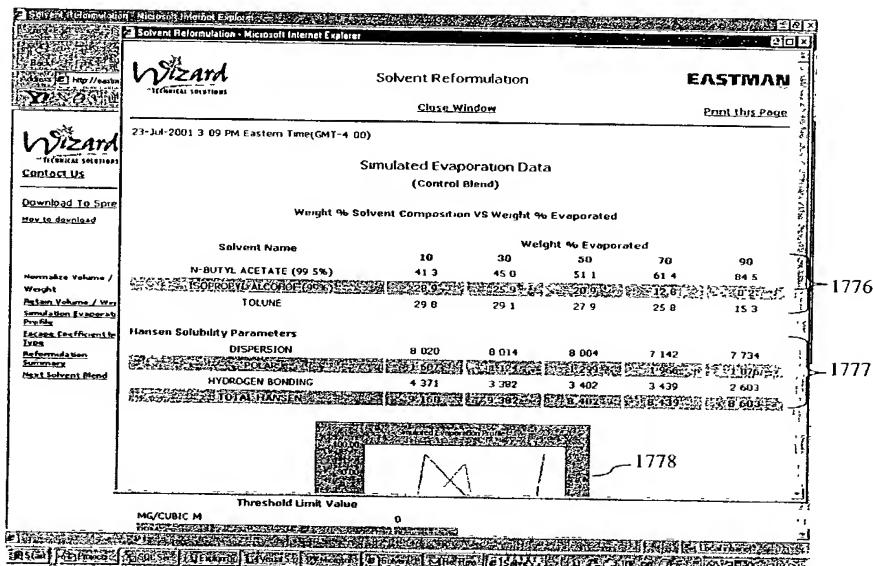


FIG. 17F

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

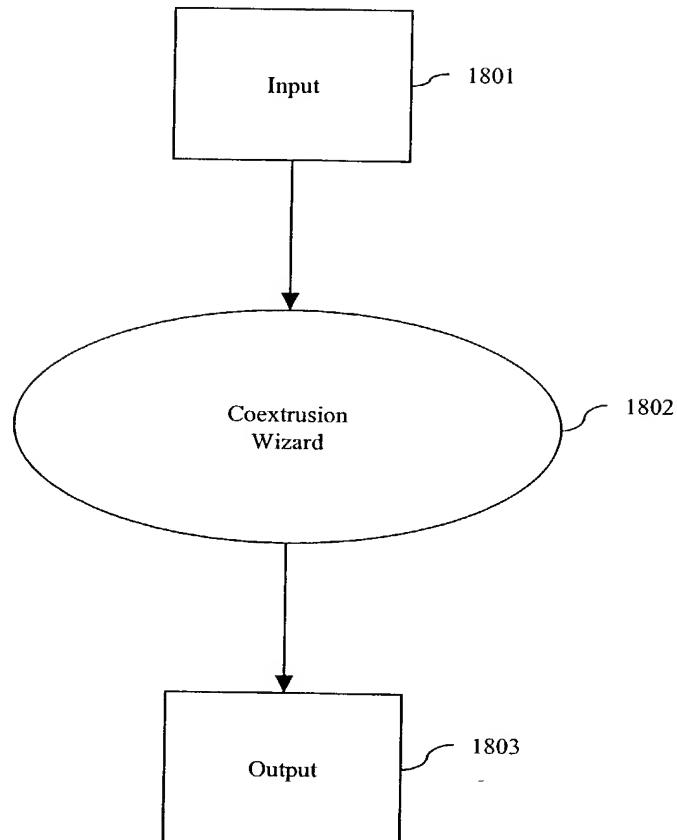
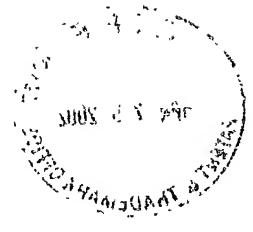


FIG. 18

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

Compare Search Help

Solvents Selection Criteria
For a list of all solvents select 'All' for each criteria and click Create Report.

Supplier: <input type="radio"/> All <input checked="" type="radio"/> Eastman	Flash Point: <input type="radio"/> All <input type="radio"/> Non-Flash ($\geq 60.5^{\circ}\text{C}$ (141°F)) <input checked="" type="radio"/> Flash ($< 60.5^{\circ}\text{C}$ (141°F))
Evaporation Rate: <input type="radio"/> All <input type="radio"/> Fast (≥ 3.0) <input type="radio"/> Medium (3.0 - 0.6) <input type="radio"/> Slow (0.6 - 0.12) <input type="radio"/> Very Slow (< 0.12)	Water Solubility: <input type="radio"/> All <input type="radio"/> Soluble <input checked="" type="radio"/> InSoluble
Nitrocellulose Solubility: <input type="radio"/> All <input type="radio"/> Active <input checked="" type="radio"/> Latent <input type="radio"/> Diluent	HAPS: <input type="radio"/> All <input checked="" type="radio"/> Eastman non-HAPs
Sort By: <input type="radio"/> Name <input type="radio"/> Flash Point <input type="radio"/> Evaporation Rate	Chemical Grade: <input type="radio"/> All <input type="radio"/> Urethane <input type="radio"/> Trace Metals ($< 10 \text{ ppb}$)

[Create Report](#) [Reset Criteria](#) [Return to e-Solvent Home Page](#)

FIG. 19A



Sort By:
 Name Flash Point
 Evaporation Rate

Solvents Report

Selection Criteria: Sorted By Name, Supplier = Eastman, Flash Point = Flash (<60.5°C (141°F)), Evap Rate = Fast (>=3.0), Water = All, Nitrocellulose = All, HAPS = All, Chemical Grade = All

Solvent	Eastman Product?	Evaporation Rate, nBuOAc = 1	Flash Point
EASTMAN Acetone, High Purity Sales Grade	Yes	6.3	-20°C (-4°F)
EASTAPURE Ethyl Acetate	Yes	4.1	-4°C (24°F)
EASTMAN Ethyl Acetate, 85-88%	Yes	4.2	-3°C (27°F)
EASTMAN Ethyl Acetate, Urethane Grade	Yes	4.1	-4°C (24°F)
EASTMAN Isopropyl Acetate	Yes	3	2°C (35°F)
EASTMAN Methyl Acetate	Yes	6.0	-13°C (9°F)
EASTMAN Methyl Acetate	Yes	6.0	-15°C (5°F)
EASTMAN Methyl Acetate	Yes	6.0	-13°C (5°F)
EASTMAN Methyl Acetate	Yes	6.0	-15°C (5°F)

[Return to Selection Page](#)

[Printer Friendly Report](#)

FIG. 19B

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

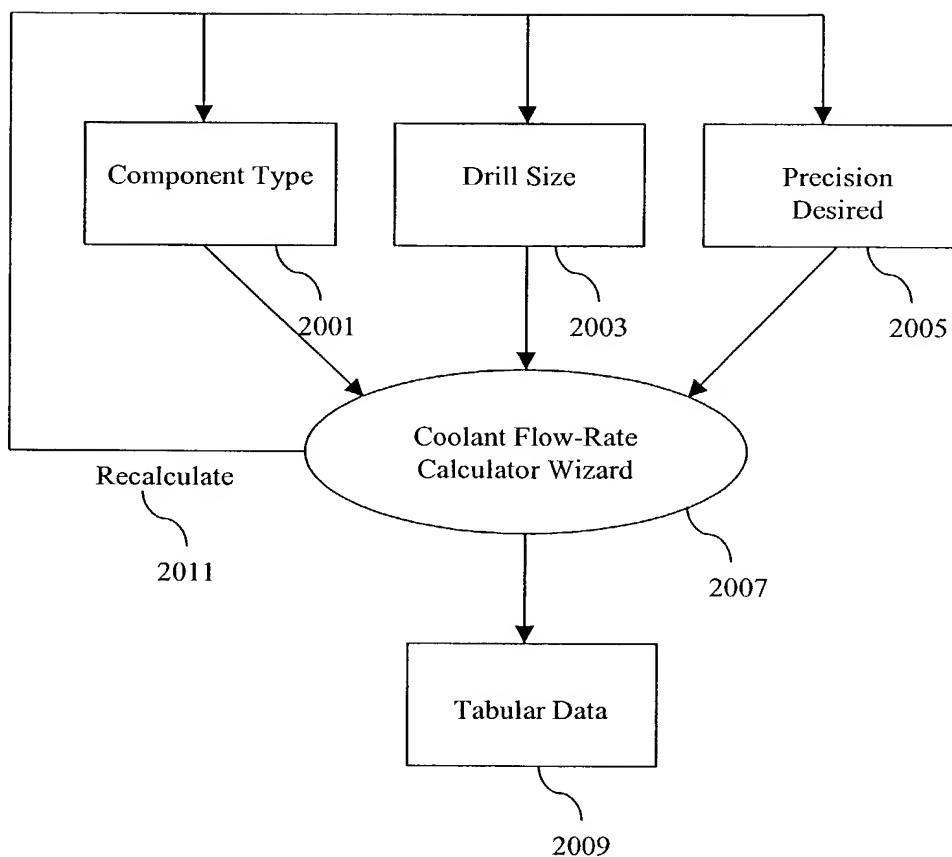


FIGURE 20A

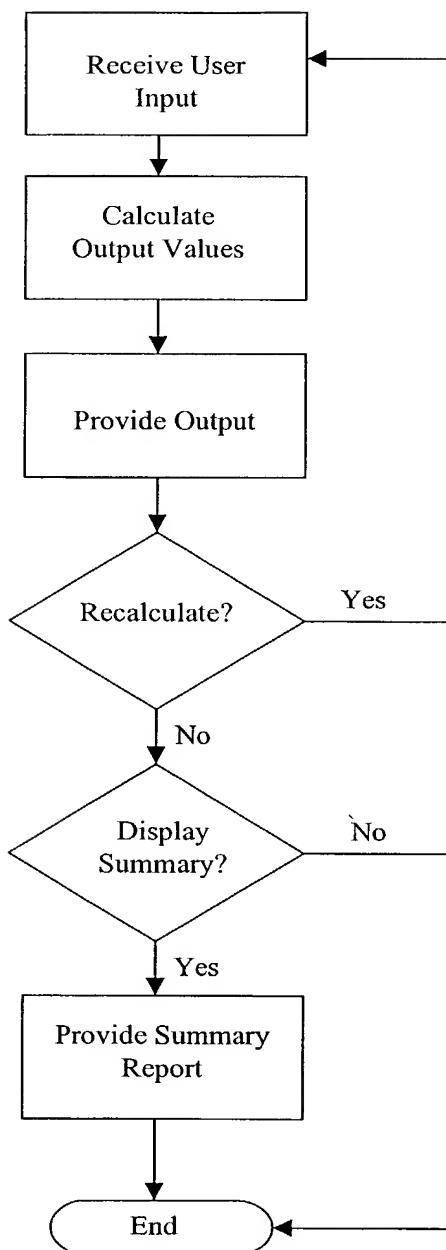


FIGURE 20B

Appn. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

Flow Rate Calculator - Microsoft Internet Explorer provided by Kilpatrick Stockton LLP

File Edit View Favorites Tools Help

Address http://www.eastman.com/Wizards/flowrate/FlowRatePC.asp

Wizard TECHNICAL SOLUTIONS

Coolant Flow Rate Calculator 2000 EASTMAN [Close Window](#)

2091 [Contact Us](#) How to use this Wizard 2012

Select the desired component calculation: channel, baffle, or bubbler:

2002 Channels 2020 [Select Pipe \(Drill\)](#)
2004 Baffles 2040 [Select \(Drill\)](#)
2006 Bubbler 2060 [Select OD/D \(Drill\)](#)

Precision (Significant Digits) 2014

2075 Calculate Minimum water flow rate to achieve turbulent flow

Disclaimer
Eastman Chemical Company will periodically check and update the data in this application. However, you should independently verify any information important for your uses. Neither Eastman Chemical Company nor any of its affiliates ("Eastman") shall be responsible for the use of any information, product, method, or apparatus herein presented ("Information"), and you must make your own determination as to its suitability and completeness for your own use, for the protection of the environment, and for health and safety purposes. You assume the entire risk of relying on this information. In no event shall Eastman be responsible for damages of any nature resulting from the use of or reliance upon this Information. By providing this information, Eastman neither can nor intends to control the method by which you use, handle, store, or transport Eastman products.

[Disclaimer](#) [Privacy Policy](#) [Terms & Conditions](#)

2031 2033 2035

2091 2002 2004 2006 2075 2020 2040 2060 2014 2031 2033 2035 2093

FIGURE 20C

Appln. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

Flow Rate Calculator - Microsoft Internet Explorer provided by Kilpatrick Stockton LLP

Address: http://www.eastman.com/Wizards/flowrate/FlowRatePC.asp

Coolant Flow Rate Calculator 2000B

EASTMAN [Close Window](#)

[Contact Us](#) [How to use this Wizard](#) [Printer Friendly Report](#)

2099

2014

2075B

Channel Baffle Bubbler

3/8 (0.578)

Precision (Significant Digits)

Minimum water flow rate to achieve turbulent flow 2080

Component = Channel; Selected Value = 3/8 (0.578); Precision = 2

Water Temperature (F)	Minimum Flow Rate (gpm)
40	1.69
50	1.44
60	1.23
70	1.08
80	0.94
90	0.83

[Disclaimer](#) [Privacy Policy](#) [Terms & Conditions](#)

FIGURE 20D

Appn. Ser. No. 10/039,482
SOFTWARE ENABLED WIZARDS
Inventors: BASSETT et al.
Express Mail No. EV 032 196 431 US

Flow Rate Calculator - Microsoft Internet Explorer provided by Kilpatrick Stockton LLP

Coolant Flow Rate Calculator

EASTMAN

[Close Window](#) 2093 [Print this Page](#)

7-Nov-2001 9:58 AM Eastern Time(GMT-5:00)

Minimum water flow rate to achieve turbulent flow

Component = Bubbler; Selected Value = 0.125/0.069 (0.143); Precision = 3

Water Temperature (F)	Minimum Flow Rate (gpm)
40	0.719
50	0.612
60	0.523
70	0.458
80	0.402
90	0.355

Disclaimer
Eastman Chemical Company will periodically check and update the data in this application. However, you should independently verify any information important for your uses. Neither Eastman Chemical Company nor any of its affiliates ("Eastman") shall be responsible for the use of any information, product, method, or apparatus herein presented.

FIGURE 20E